zertifiziert ISO 9001 for you Cert

MSPN GMBH

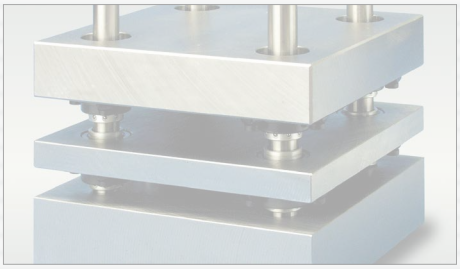
Märkische Stanz-Partner

Stanz-Partner:

Power, Service, Kundenorientierung

and more ...

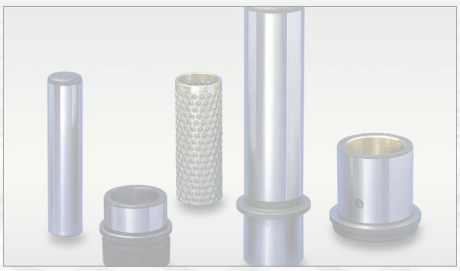
[gasdruckfedern]
[gassprings]
2014



[**säulen**gestelle]
[**die**sets]

Katalog 1 / Catalogue 1

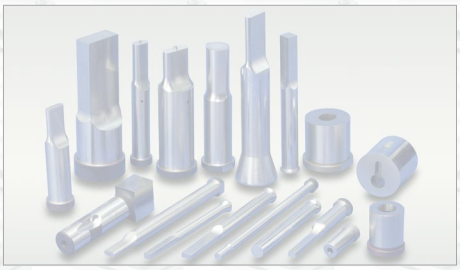
[SG]



[**führungs**systeme]
[**guiding**systems]

Katalog 1 / Catalogue 1

[FS]



[**schneid**elemente]
[**cutting**elements]

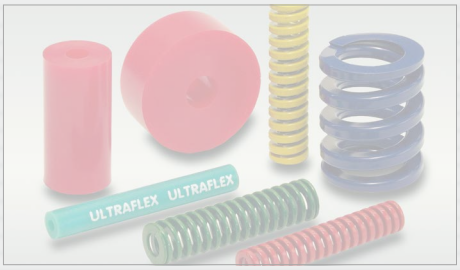
Katalog 1 / Catalogue 1

[SE]

[**technische**Hilfsmittel]
[**general**diecomponents]

Katalog 1 / Catalogue 1

[TH]



[**feder**elemente]
[**springs**]

Katalog 1 / Catalogue 1

[FE]

[**nitrocyl**Gasdruckfedern]
[**nitrocyl**GasSprings]

Katalog 2 / Catalogue 2

[NC]

[**hyson**StickstoffSysteme]
[**hyson**NitrogenSystems]

Katalog 2 / Catalogue 2

[HS]

Artikel Article	Best.-Nr. Order no.	Seite Page
A		
Abdrückstifte n. DIN 3004, 4 - 186 daN, Hub 10 - 125 mm, Ø M16x1,5 - M24x1,5	NC.091 - NC.094	NC.091.1 - 13
Abfüllarmatur	HS NCA 3000	NC.130.15
Abfüllarmatur	HS NCA 3000	HS.36
Ablassventil	NCR.99.061	NC.130.25
Anschlussstück	NCI.BK.KRM6	NC.130.27
Anschlussstück	NCI.BK.KRM8	NC.130.27
Anschlussstück	NCI.BK.90BK	NC.130.27
Anschlussstück	NCI.BK.TEBK	NC.130.28
Anschlussstück	NCI.BK.KRMK	NC.130.28
Anschlussstück	NCI.BK.KCMK	NC.130.28
Anschlussstück	NCI.BK.KTMK	NC.130.28
Anschlussstück Kreuz	HS NF 5500-4, HS NF 5501-4	NC.130.18, NC.130.22
Anschlussstück mit Adapter	HS NF 1003-4-G1/8“	NC.130.25
Anschlussstück mit Ventil und Schutzkappe	NCI.00.012	NC.130.26
Anschlussstück, 1-fach	NCZ.01	NC.130.29
Anschlussstück, 2-fach	NCZ.02	NC.130.29
Anschlussstück, 3-fach	NCZ.03	NC.130.30
Anschlussstück, 4-fach	NCZ.04	NC.130.30
Anschlussstück, 5-fach	NCZ.05	NC.130.31
Anschlussstück, gerade	HS NF 1001-4-G1/8“	NC.130.17, NC.130.22
Anschlussstücke, 45°, mit Überwurfmutter	HS NF 4500	HS.38
Anschlussstücke, 90°, mit Überwurfmutter	HS NF 2000	HS.39
Anschlussstücke, gerade, mit Überwurfmutter	HS NF 1000	HS.38
B / C		
Berstscheibe 360 bar, Berstscheibe 517 bar	NCR.99.139.1, NCR.99.140.1	NC.130.25
Berstscheiben	HS RD 2150	HS.24
D / E		
Drehmomentschlüssel	NCTU.00.009	NC.130.33
Druckeinheit	NCTU.00.016	NC.130.36
Druckplatten	NCP SPVD, NCP SPFI, NCP SPPS	NC.130.1, NC.130.2
Druckwächter	HS Z 20	NC.130.7
Druckwächter	HS Z 20	HS.34
Entlüftungs-Werkzeug, G1/8“	NCTU.00.550	NC.130.33
Entlüftungs-Werkzeug, M6	NCTU.00.550	NC.130.33
F / G		
GDF, kompakt, erhöhte Kraft, Serie NC.064.10, 300 - 18410 daN, Hub 10 - 300 mm, Ø 32 - 195 mm	NC.064.10	NC.064.1 - 23
GDF, kompakt, G1/8“, Serie NC.030.18, 420 - 18410 daN, Hub 6 - 50 mm, Ø 25 - 150 mm	NC.030.18	NC.030.25 - 47
GDF, kompakt, Serie NC.030.00, 420 - 18410 daN, Hub 6 - 50 mm, Ø 25 - 150 mm	NC.030.00	NC.030.1 - 23

Artikel Article	Best.-Nr. Order no.	Seite Page
GDF, mit erhöhter Kraft, Serie NC.041.00, 150 - 7950 daN, Hub 10 - 80 mm, Ø 19 - 75 mm	NC.041	NC.041.1 - 17
GDF, mit erhöhter Kraft, Serie NC.042.00, 810 - 4190 daN, Hub 12 - 80 mm, Ø 38 - 75 mm	NC.042	NC.042.1 - 11
GDF, mit Körpergewinde, Serie NC.060.00, 50 - 500 daN, Hub 5 - 125 mm, Ø M28x1,5 - M38x1,5	NC.060.20	NC.060.31 - 38
GDF, mittlere Größen, Serie NC.040.00, 200 - 10000 daN, Hub 10 - 200 mm, Ø 25 - 150 mm	NC.040	NC.040.1 - 23
GDF, niedrigbauend, Boden verstärkt, Serie NC.020.00, 740 - 5000 daN, Hub 10 - 200 mm, Ø 50 - 105 mm	NC.020	NC.020.1 - 13
GDF, niedrigbauend, G1/8“, Serie NC.010.18, 750 - 5000 daN, Hub 12 - 200 mm, Ø 50 - 105 mm	NC.010.18	NC.010.25 - 37
GDF, niedrigbauend, G1/8“, Serie NC.028.00, 740 - 2385 daN, Hub 10 - 125 mm, Ø 45 - 75 mm	NC.028	NC.028.1 - 15
GDF, niedrigbauend, Serie NC.010.00, 200 - 5000 daN, Hub 5 - 200 mm, Ø 25 - 105 mm	NC.010.00	NC.010.1 - 19
GDF, niedrigbauend, System FP, Serie NC.015.00, 170 - 20000 daN, Hub 7 - 125 mm, Ø 19 - 195 mm	NC.015	NC.015.1 - 33
GDF, niedrigbauend, System NK, Serie NC.016.00, 190 - 3960 daN, Hub 5 - 125 mm, Ø 25 - 95 mm	NC.016	NC.016.1 - 19
GDF, Standard mit Kopfgewinde, Serie NC.070, 250 - 500 daN, Hub 12 - 100 mm, Ø 32 - 45 mm	NC.070.00	NC.070.1 - 7
GDF, Standard nach VDI 3003, Serie NC.060.10, 750 - 10000 daN, Hub 12,7 - 300 mm, Ø 50 - 195 mm	NC.060.10	NC.060.17 - 29
GDF, Standard nach VDI 3003, Serie NC.071, 150 - 500 daN, Hub 10 - 160 mm, Ø 32 - 45 mm	NC.071.00	NC.071.1 - 11
GDF, Standard, mit Durchgangsbohrung, Serie NC.080, 500 - 2200 daN, Hub 10 - 100 mm, Ø 50 - 95 mm	NC.080.00	NC.080.1 - 7
GDF, Standard, mittlere Größe, Serie NC.060.29, 750 - 7500 daN, Hub 12,5 - 250 mm, Ø 50 - 150 mm	NC.060.29	NC.060.39 - 49
GDF, Standard, Serie NC.060.09, 500 - 5000 daN, Hub 6 - 125 mm, Ø 45 - 120 mm	NC.060.09	NC.060.1 - 15
GDF, Teileheber	NCF.1, NCF.3	NC.120.1 - 2
H / I		
Hinweisschild	NC Hinweisschild	NC.130.14
Hochdruckschlauch	HS NH 200, HS NH 220, NCX.20.00.010	NC.130.19, NC.130.27
Hochdruckschlauch komplett mit Pressarmaturen, 24° Konus	HS NH 220…	NC.130.23
Hochdruckschlauch komplett mit Pressarmaturen, 37° Konus	HS NH 220…, HS NH 200…	NC.130.20, NC.130.21
Hochdruckschläuche (Pressschläuche)	HS NP	HS.33
J / K		
Kompaktventil	HS Z	HS.31
Kontroll-/Ladearmatur	NCCA.1.1	NC.130.16
Kontrollarmatur	NCCP.1.2	NC.130.5
Kontrollarmatur	NCCP.1.1	NC.130.5

Artikel Article	Best.-Nr. Order no.	Seite Page
Kontrollarmatur	NCCP.600.2	NC.130.6
Kontrollarmatur	HS CP 1555	HS.25
Kontrollarmatur	HS CPM 1555-E	HS.26
Kontrollarmatur	HS CPM 1555-M	HS.25
Kontrollarmatur 400 bar	NCTU.00.037	NC.130.25
Kontrollarmatur 600 bar	NCTU.00.038	NC.130.25
Kontrollarmatur für Hochdruck.Systeme	HS CP-N2	HS.27
Kontrollarmatur für Hochdruck.Systeme	HS CPM 2000-E	HS.28
Kontrollarmatur für Hochdruck.Systeme	HS CPM 2000-M	HS.27
Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern, Standgerät	NCTU.300	NC.130.35
Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern, Tischgerät	NCTU.200	NC.130.34
L		
L-Anschlussstück	HS NF 3300-4-G1/8”, HS NF 3301-4-G1/8”	NC.130.17, NC.130.22
L-Stück mit Überwurfmutter	HS NF 3300-4	NC.130.18
L-Stück mit Überwurfmutter	HS NF 3300	HS.40
Ladeadapter	NCQ	NC.130.11, NC.130.25
Ladeschlauch	HS NCCS	NC.130.15
Ladeschlauch	HS NCCS	HS.36
M / N		
Mini-Gasdruckfedern, Serie NC.05X.00, 20 - 200 daN, Hub 7 - 125 mm, Ø 12 - 25 mm	NC.05X	NC.05X.1 - 21
Montage-Werkzeug (Kolbenstange), M6	NCTU.00.006	NC.130.32
Montage-Werkzeug (Kolbenstange), M8	NCTU.00.008	NC.130.32
Multi-Kontrollarmatur	NCCP.7.4	NC.130.6
O / P		
Pneumatik-Federn, Serie NC.110, 80 - 200 daN, Hub 12.7 - 160 mm, Ø 95 - 230 mm	NC.110	NC.110.1 - 12
Pressarmatur 45°	HS NHP 2-45, HS NHP 3-45	NC.130.19
Pressarmatur 45°	HS NHP X-45	HS.33
Pressarmatur 90°	HS NHP 2-90, HS NHP 3-90	NC.130.19
Pressarmatur 90°	HS NHP X-90	HS.32
Pressarmatur, gerade	HS NHP 2, HS NHP 3, NCT.BKRT	NC.130.19, NC.130.27
Pressarmatur, gerade	HS NHP	HS.32
S		
Schlauch	NCX.12	NC.130.26
Schlauch	NCX.13	NC.130.26
Schlauch	NCX.15	NC.130.26
Schlauch	NCX.BK, NCX.BK…G	NC.130.27
Schlauchpresse	HS KarryKrimp 1	NC.130.37
Schlauchschelle aus Kunststoff	HS HC	HS.37

Artikel Article	Best.-Nr. Order no.	Seite Page
Schlauchschutzspiralen aus Metall	HS HG	HS.37
Schlauschelle	NCR.99.176, NCR.99.102	NC:130.25, NC:130.27
Sechskantschlüssel	NCTU.00.030	NC.130.33
Speichertank	HS ST	NC.130.13
Speichertank	HS SCT	HS.29
Speichertank	HS ST	HS.30
Standard-Zylinder	HS MOR … XP, HS SB	HS.13 - 15, HS.20
Standard-Zylinder, tiefbauend	HS MOR-D. . XP, HS TSB	HS.16 - 19
Steckkupplung	HS 11-770-2700	NC.130.12
Steckkupplung	HS 11-770-2700	HS.35
Stecknippel	NCT.1.14	NC.130.11
Stecknippel	HS 11-700-8555	NC.130.12
Stecknippel	HS 11-700-8555	HS.35
Stopfen	NCP.99.096	NC.130.33
T / U		
T-Anschlussstück	HS NF 3001-4, HS NF 3500-4, HS NF 3501-4	NC.130.18, NC.130.22
T-Stück	HS NF 3000-4-G1/8”	NC.130.17
T-Stück mit Überwurfmutter	HS NF 3000-4	NC.130.18
T-Stück mit Überwurfmutter	HS NF 3000	HS.39
V / W		
Ventil	NCTU.00.002, NCP.99.082	NC.130.32, NC.130.33
Ventil-Werkzeug	NCTU.00.003	NC.130.32
Ventil-Zange	NCTU.00.001	NC.130.32
Verschlussstopfen	NCR.99.039	NC.130.26
Verschlussstopfen mit Anschlussgewinde	HS NF 771	HS.22, HS.23
Verschlussstopfen mit Berstscheibe	HS NF 771 RD	HS.23
Verteilerblock	NCCC.1.2, NCCC.1.4, NCCC.6.6	NC.130.8, NC.130.9
Verteilerleiste	NCCC.1.7	NC.130.9
Verteilerleiste	NCCC.1.10.01	NC.130.10
Verzögerungszylinder, Serie NC.061.10, 300 - 7500 daN, Hub 12,7 - 125 mm, Ø 45 - 195 mm	NC.061.10	NC.061.1 - 13
Werkzeugsatz für Montage	NCTU.00.033	NC.130.38
Winkelstück 45°	HS NF 4500-4-G1/8”, HS NF 4501-4	NC.130.17, NC.130.22
Winkelstück 45° mit Überwurfmutter	HS NF 4500-4	NC.130.18
Winkelstück 90°	HS NF 2500-4, HS NF 2501-4	NC.130.18, NC.130.22
Winkelstück 90°	HS NF 2000-4-G1/8”, HS NF 2001-4	NC.130.17, NC.130.22
Winkelstück 90° mit Überwurfmutter	HS NF 2000-4	NC.130.18

Artikel Article	Best.-Nr. Order no.	Seite Page
0 - 9		
45° elbow swivel nuts	HS NF 4500	HS.38
90° elbow swivel nuts	HS NF 2000	HS.39
A		
Accumulator	NCTU.00.016	NC.130.36
Adapter	NCI.BK.KRM6	NC.130.27
Adapter	NCI.BK.KRM8	NC.130.27
Adapter	NCI.BK.90BK	NC.130.27
Adapter	NCI.BK.TEBK	NC.130.28
Adapter	NCI.BK.KRMK	NC.130.28
Adapter	NCI.BK.KCMK	NC.130.28
Adapter	NCI.BK.KTMK	NC.130.28
Adapter cross	HS NF 5500-4, HS NF 5501-4	NC.130.18, NC.130.22
Adapter with valve and cover	NCI.00.012	NC.130.26
Assembly tool (Piston rod), M6	NCTU.00.006	NC.130.32
Assembly tool (Piston rod), M8	NCTU.00.008	NC.130.32
B		
Bleeding tool, G1/8“	NCTU.00.550	NC.130.33
Bleeding tool, M6	NCTU.00.550	NC.130.33
Bleeding valve	NCR.99.061	NC.130.25
Branch tee swivel nuts	HS NF 3000	HS.39
C		
Charging adapter	NCQ	NC.130.11, NC.130.25
Charging assembly	HS NCA 3000	NC.130.15
Charging assembly	HS NCA 3000	HS.36
Charging hose	HS NCCS	NC.130.15
Charging hose	HS NCCS	HS.36
Compact valve	HS Z	HS.31
Compression tank	HS ST	NC.130.13
Compression tank	HS SCT	HS.29
Compression tank	HS ST	HS.30
Control panel	NCCP.1.2	NC.130.5
Control panel	NCCP.1.1	NC.130.5
Control panel	NCCP.600.2	NC.130.6
Control panel	HS CP 1555	HS.25
Control panel	HS CPM 1555-E	HS.26
Control panel	HS CPM 1555-M	HS.25
Control panel 400 bar	NCTU.00.037	NC.130.25
Control panel 600 bar	NCTU.00.038	NC.130.25
Control panel for high pressure systems	HS CP-N2	HS.27
Control panel for high pressure systems	HS CPM 2000-E	HS.28
Control panel for high pressure systems	HS CPM 2000-M	HS.27
Crimping fittings 45°	HS NHP 2-45, HS NHP 3-45	NC.130.19
Crimping fittings 45°	HS NHP X-45	HS.33

Artikel Article	Best.-Nr. Order no.	Seite Page
Crimping fittings 90°	HS NHP 2-90, HS NHP 3-90	NC.130.19
Crimping fittings 90°	HS NHP X-90	HS.32
Crimping fittings, straight	HS NHP 2, HS NHP 3, NCT.BKRT	NC.130.19, NC.130.27
Crimping fittings, straight	HS NHP	HS.32
Crimping press	HS KarryKrimp 1	NC.130.37
D / E		
Delayed gas spring, NC.061.10 series, 300 - 7500 daN, Stroke 12,7 - 125 mm, Ø 45 - 195 mm	NC.061.10	NC.061.1 - 13
Distribution blocks	NCCC.1.2, NCCC.1.4, NCCC.6.6	NC.130.8, NC.130.9
Distribution blocks	NCCC.1.7	NC.130.9
Distribution blocks	NCCC.1.10.01	NC.130.10
Dynamometer with digital display, Floor	NCTU.300	NC.130.35
Dynamometer with digital display, Table	NCTU.200	NC.130.34
F		
Female quick release coupling	HS 11-770-2700	NC.130.12
Female quick release coupling	HS 11-770-2700	HS.35
Five way Adapter	NCZ.05	NC.130.31
Four way Adapter	NCZ.04	NC.130.30
G		
GS, compact, higher force, NC.064.10 series, 300 - 18410 daN, Stroke 10 - 300 mm, Ø 32 - 195 mm	NC.064.10	NC.064.1 - 23
GS, compact, NC.030.00 series, 420 - 18410 daN, Stroke 6 - 50 mm, Ø 25 - 150 mm	NC.030.00	NC.030.1 - 23
GS, compact, side connection, G1/8“, NC.030.18 series, 420 - 18410 daN, Stroke 6 - 50 mm, Ø 25 - 150 mm	NC.030.18	NC.030.25 - 47
GS, medium sizes, NC.040.00 series, 200 - 10000 daN, Stroke 10 - 200 mm, Ø 25 - 150 mm	NC.040	NC.040.1 - 23
GS, smaller height, FP system, NC.015.00 series, 170 - 20000 daN, Stroke 7 - 125 mm, Ø 19 - 195 mm	NC.015	NC.015.1 - 33
GS, smaller height, G1/8“, NC.010.18 series, 750 - 5000 daN, Stroke 12 - 200 mm, Ø 50 - 105 mm	NC.010.18	NC.010.25 - 37
GS, smaller height, G1/8“, NC.028.00 series, 740 - 2385 daN, Stroke 10 - 125 mm, Ø 45 - 75 mm	NC.028	NC.028.1 - 15
GS, smaller height, NC.010.00 series, 200 - 5000 daN, Stroke 5 - 200 mm, Ø 25 - 105 mm	NC.010.00	NC.010.1 - 25
GS, smaller height, NC.020.00 series, 740 - 5000 daN, Stroke 10 - 200 mm, Ø 50 - 105 mm	NC.020	NC.020.1 - 13
GS, smaller height, NK system, NC.016.00 series, 190 - 3960 daN, Stroke 5 - 125 mm, Ø 25 - 95 mm	NC.016	NC.016.1 - 19
GS, Standard acc. to VDI 3003, NC.060.10 series, 750 - 10000 daN, Stroke 12,7 - 300 mm, Ø 50 - 195 mm	NC.060.10	NC.060.17 - 29
GS, Standard acc. to VDI 3003, NC.071 series, 150 - 500 daN, Stroke 10 - 160 mm, Ø 32 - 45 mm	NC.071.00	NC.071.1 - 11

Artikel Article	Best.-Nr. Order no.	Seite Page
GS, Standard, medium size, NC.060.29 series, 750 - 7500 daN, Stroke 12,5 - 250 mm, Ø 50 - 150 mm	NC.060.29	NC.060.39 - 49
GS, Standard, NC.060.09 series, 500 - 5000 daN, Stroke 6 - 125 mm, Ø 45 - 120 mm	NC.060.09	NC.060.1 - 15
GS, Stripper	NCF.1, NCF.3	NC.120.1 - 2
GS, with higher force, NC.041.00 series, 150 - 7950 daN, Stroke 10 - 80 mm, Ø 19 - 75 mm	NC.041	NC.041.1 - 17
GS, with higher force, NC.042.00 series, 810 - 4190 daN, Stroke 12 - 80 mm, Ø 38 - 75 mm	NC.042	NC.042.1 - 11
H / I / J		
Hexagon socket head wrench	NCTU.00.030	NC.130.33
High pressure hose, complete with pressed-on adapters, 24° Taper	HS NH 220…	NC.130.23
High pressure hose, complete with pressed-on adapters, 37°Taper	HS NH 220…, HS NH 200…	NC.130.20, NC.130.21
High pressure hose, flexible	HS NH 200, HS NH 220, NCX.20.00.010	NC.130.19, NC.130.27
High pressure hoses, flexible	HS NP	HS.33
Hollowsprings, NC.080 series, 500 - 2200 daN, Stroke 10 - 100 mm, Ø 50 - 95 mm	NC.080.00	NC.080.1 - 7
Hose	NCX.12	NC.130.26
Hose	NCX.13	NC.130.26
Hose	NCX.15	NC.130.26
Hose	NCX.BK, NCX.BK…G	NC.130.27
Hose clamps	NCR.99.176, NCR.99.102	NC:130.25, NC:130.27
Hose clamps	HS HC	HS.37
Hose guards	HS HG	HS.37
K / L		
L-Connector	HS NF 3300-4-G1/8”, HS NF 3301-4-G1/8”	NC.130.17, NC.130.22
L-Connector with connecting nut	HS NF 3300-4	NC.130.18
M / N / O		
Male quick release coupling	NCT.1.14	NC.130.11
Male quick release coupling	HS 11-700-8555	NC.130.12
Male quick release coupling	HS 11-700-8555	HS.35
Micro springs, NC.05X.00 series, 20 - 200 daN, Stroke 7 - 125 mm, Ø 12 - 25 mm	NC.05X	NC.05X.1 - 21
Multi-Control-Unit	NCCP.7.4	NC.130.6
One way Adapter	NCZ.01	NC.130.29
P / Q		
Plug	NCP.99.096	NC.130.33
Plug	NCR.99.039	NC.130.26
Plungers acc. to DIN 3004, 4 - 186 daN, Stroke 10 - 125 mm, Ø M16x1,5 - M24x1,5	NC.091 - NC.094	NC.091.1 - 13

Artikel Article	Best.-Nr. Order no.	Seite Page
Pneumatic springs, NC.110 series, 80 - 200 daN, Stroke 12.7 - 160 mm, Ø 95 - 230 mm	NC.110	NC.110.1 - 12
Pressure controller unit	NCCA.1.1	NC.130.16
Pressure monitor	HS Z 20	NC.130.7
Pressure monitor	HS Z 20	HS.34
R / S		
Run tee swivel nuts	HS NF 3300	HS.40
Rupture disc	HS RD 2150	HS.24
Rupture disk 360 bar, Rupture disk 517 bar	NCR.99.139.1, NCR.99.140.1	NC.130.25
Sealing plugs with internal ports	HS NF 771	HS.22, HS.23
Sealing plugs with rupture disc	HS NF 771 RD	HS.23
Sign	NC Hinweisschild	NC.130.14
Standard cylinders	HS MOR … XP, HS SB	HS.13 - 15, HS.20
Standard cylinders, smaller height	HS MOR-D. . XP, HS TSB	HS.16 - 19
Straight fitting	HS NF 1001-4-G1/8“	NC.130.17, NC.130.22
Straight fitting with adapter	HS NF 1003-4-G1/8“	NC.130.25
Straight fittings	HS NF 1000	HS.38
T / U		
T-Connector	HS NF 3000-4-G1/8”	NC.130.17
T-Connector with connecting nut	HS NF 3000-4	NC.130.18
T-Coupling	HS NF 3001-4, HS NF 3500-4, HS NF 3501-4	NC.130.18, NC.130.22
Threaded joint, 45°	HS NF 4500-4-G1/8”, HS NF 4501-4	NC.130.17, NC.130.22
Threaded joint, 45°, with connecting nut	HS NF 4500-4	NC.130.18
Threaded joint, 90°	HS NF 2500-4, HS NF 2501-4	NC.130.18, NC.130.22
Threaded joint, 90°	HS NF 2000-4-G1/8”, HS NF 2001-4	NC.130.17, NC.130.22
Threaded joint, 90°, with connecting nut	HS NF 2000-4	NC.130.18
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Steel die sets, 2 plates, 2 leader pins, types A-C-D	SG 2 .	SG.5 - 8
Steel die sets, 2 plates, 2 leader pins, types A-C-D, M-Line	SG 2 . RM	SG.26 - 29
Steel die sets, 2 plates, 4 leader pins, type Q	SG 2 Q	SG.13 - 16
Steel die sets, 2 plates, 4 leader pins, type Q, M-Line	SG 2 Q RM	SG.34 - 37
Steel die sets, 3 plates, 2 leader pins, types A-C-D	SG 3 .	SG.9 - 12
Steel die sets, 3 plates, 2 leader pins, types A-C-D, M-Line	SG 3 . RM	SG.30 - 33
Steel die sets, 3 plates, 4 leader pins, type Q	SG 3 Q	SG.17 - 20
Steel die sets, 3 plates, 4 leader pins, type Q, M-Line	SG 3 Q RM	SG.38 - 41
Support blocks, teflon	NCVA.4	TH.59
Supports	NCVA.…	TH.58
T / U		
Tapered interlocks with spacer disk	TH 920, TH 921	TH.38, TH.39
Universal lifting points with eye hook, double ball bearing	TH 53 R	TH.33
V / W		
Wear plates VDI 3357 with self lubricating graphite plugs, 12 mm thick	FS 502	FS.27
Wear plates VDI 3357 with self lubricating graphite plugs, 20 mm thick	FS 500	FS.26
X / Y / Z		
XXL - steel plates and welded units with additional work / secondary operation		SG.43 - 46

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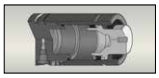
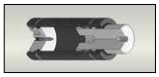
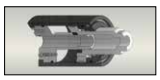
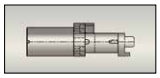
MSPN GMBH

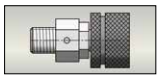
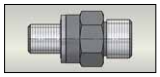
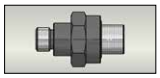
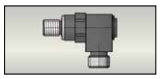
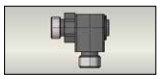
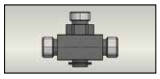
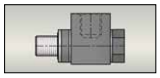
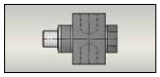
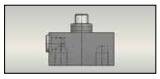
Märkische Stanz-Partner

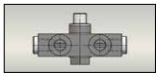
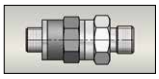
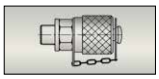
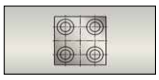
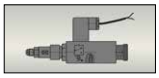
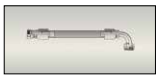
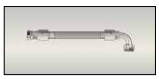
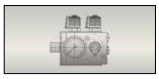
[**nitrocyl**Gasdruckfedern]

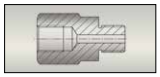
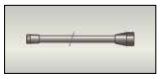
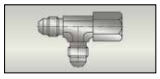
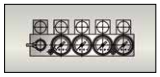
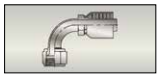
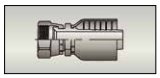
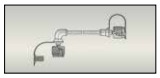
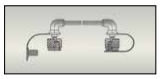
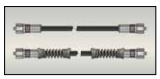
[**nitrocyl**GasSprings]

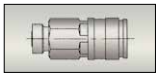
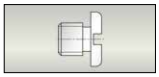
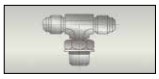
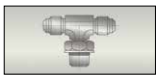
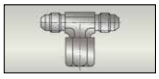
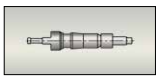
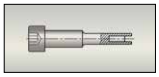
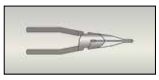
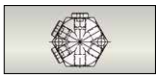
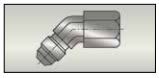
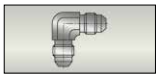
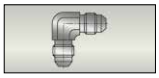
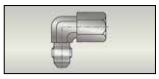
	NitroCyl-Gasdruckfedern	NitroCyl-Gas springs	Best.-Nr. Order no.	Seite Page
	Technische Informationen	Technical information		NC.7 - 21
	niedrigbauend, Serie NC.010.00 200 - 5000 daN, Hub 5 - 200 mm, Ø 25 - 105 mm	smaller height, NC.010.00 series 200 - 5000 daN, Stroke 5 - 200 mm, Ø 25 - 105 mm	NC.010.00	NC.010. 1 - 19
	niedrigbauend, G1/8“, Serie NC.010.18 750 - 5000 daN, Hub 12 - 200 mm, Ø 50 - 105 mm	smaller height, G1/8“, NC.010.18 series 750 - 5000 daN, Stroke 12 - 200 mm, Ø 50 - 105 mm	NC.010.18	NC.010. 25 - 37
	niedrigbauend, System FP, Serie NC.015.00, 170 - 20000 daN, Hub 7 - 125 mm, Ø 19 - 195 mm	smaller height, FP system, NC.015.00 series, 170 - 20000 daN, Stroke 7 - 125 mm, Ø 19 - 195 mm	NC.015	NC.015. 1 - 33
	niedrigbauend, System NK, Serie NC.016.00, 190 - 3960 daN, Hub 5 - 125 mm, Ø 25 - 95 mm	smaller height, NK system, NC.016.00 series, 190 - 3960 daN, Hub 5 - 125 mm, Ø 25 - 95 mm	NC.016	NC.016. 1 - 19
	niedrigbauend, Boden verstärkt, Serie NC.020.00, 740 - 5000 daN, Hub 10 - 200 mm, Ø 50 - 105 mm	smaller height, NC.020.00 series 740 - 5000 daN, Stroke 10 - 200 mm, Ø 50 - 105 mm	NC.020	NC.020. 1 - 13
	niedrigbauend, G1/8“, Serie NC.028.00 740 - 2385 daN, Hub 10 - 125 mm, Ø 45 - 75 mm	smaller height, G1/8“, NC.028.00 series 740 - 2385 daN, Hub 10 - 125 mm, Ø 45 - 75 mm	NC.028	NC.028. 1 - 15
	kompakt, Serie NC.030.00 420 - 18410 daN, Hub 6 - 50 mm, Ø 25 - 150 mm	compact, NC.030.00 series 420 - 18410 daN, Stroke 6 - 50 mm, Ø 25 - 150 mm	NC.030.00	NC.030. 1 - 23
	kompakt, G1/8“, Serie NC.030.18 420 - 18410 daN, Hub 6 - 50 mm, Ø 25 - 150 mm	compact, side connection, G1/8“, NC.030.18 series, 420 - 18410 daN, Stroke 6 - 50 mm, Ø 25 - 150 mm	NC.030.18	NC.030. 25 - 47
	mittlere Größen, Serie NC.040.00 200 - 10000 daN, Hub 10 - 200 mm, Ø 25 - 150 mm	medium sizes, NC.040.00 series 200 - 10000 daN, Stroke 10 - 200 mm, Ø 25 - 150 mm	NC.040	NC.040. 1 - 23
	mit erhöhter Kraft, Serie NC.041.00 150 - 7950 daN, Hub 10 - 80 mm, Ø 19 - 75 mm	with higher force, NC.041.00 series 150 - 7950 daN, Stroke 10 - 80 mm, Ø 19 - 75 mm	NC.041	NC.041. 1 - 17
	mit erhöhter Kraft, Serie NC.042.00 810 - 4190 daN, Hub 12 - 80 mm, Ø 38 - 75 mm	with higher force, NC.042.00 series 810 - 4190 daN, Stroke 12 - 80 mm, Ø 38 - 75 mm	NC.042	NC.042. 1 - 11
	Mini-Gasdruckfedern, Serie NC.05X.00 20 - 200 daN, Hub 7 - 125 mm, Ø 12 - 25 mm	Micro springs, NC.05X.00 series 20 - 200 daN, Stroke 7 - 125 mm, Ø 12 - 25 mm	NC.05X	NC.05X. 1 - 21
	Standard, Serie NC.060.09 500 - 5000 daN, Hub 6 - 125 mm, Ø 45 - 120 mm	Standard, NC.060.09 series 500 - 5000 daN, Stroke 6 - 125 mm, Ø 45 - 120 mm	NC.060.09	NC.060. 1 - 15
	Standard nach VDI 3003, Serie NC.060.10, 750 - 10000 daN, Hub 12,7 - 300 mm, Ø 50 - 195 mm	Standard acc. to VDI 3003, NC.060.10 series, 750 - 10000 daN, Stroke 12,7 - 300 mm, Ø 50 - 195 mm	NC.060.10	NC.060. 17 - 29
	mit Körpergewinde, Serie NC.060.20 50 - 500 daN, Hub 5 - 125 mm, Ø M28x1,5 - M38x1,5	threaded springs, NC.060.20 series 50 - 500 daN, Stroke 5 - 125 mm, Ø M28x1,5 - M38x1,5	NC.060.20	NC.060. 31 - 37
	Standard, mittlere Größe, Serie NC.060.29 750 - 7500 daN, Hub 12,5 - 250 mm, Ø 50 - 150 mm	Standard, medium size NC.060.29 series, 750 - 7500 daN, Stroke 12,5 - 250 mm, Ø 50 - 150 mm	NC.060.29	NC.060. 39 - 49
	Verzögerungszylinder, Serie NC.061.10 300 - 7500 daN, Hub 12,7 - 125 mm, Ø 45 - 195 mm	Delayed gas spring, NC.061.10 series, 300 - 7500 daN, Stroke 12,7 - 125 mm, Ø 45 - 195 mm	NC.061.10	NC.061. 1 - 13
	kompakt, erhöhte Kraft, Serie NC.064.10 300 - 18410 daN, Hub 10 - 300 mm, Ø 32 - 195 mm	compact, higher force, NC.064.10 series, 300 - 18410 daN, Stroke 10 - 300 mm, Ø 32 - 195 mm	NC.064.10	NC.064. 1 - 23
	Standard mit Kopfgewinde, Serie NC.070 250 - 500 daN, Hub 12 - 100 mm, Ø 32 - 45 mm	Threaded springs, NC.070 series, 250 - 500 daN, Stroke 12 - 100 mm, Ø 32 - 45 mm	NC.070.00	NC.070. 1 - 7

	NitroCyl-Gasdruckfedern	NitroCyl-Gas springs	Best.-Nr. Order no.	Seite Page
	Standard nach VDI 3003, Serie NC.071 150 - 500 daN, Hub 10 - 160 mm, Ø 32 - 45 mm	Standard acc. to VDI 3003, NC.071 series, 150 - 500 daN, Stroke 10 - 160 mm, Ø 32 - 45 mm	NC.071.00	NC.071. 1 - 11
	Standard, mit Durchgangsbohrung Serie NC.080, 500 - 2200 daN, Hub 10 - 100 mm, Ø 50 - 95 mm	Hollowsprings, NC.080 series, 500 - 2200 daN, Stroke 10 - 100 mm, Ø 50 - 95 mm	NC.080.00	NC.080. 1 - 7
	Abdrückstifte nach DIN 3004 4 - 186 daN, Hub 10 - 125 mm, Ø M16x1,5 - M24x1,5	Plungers acc. to DIN 3004 4 - 186 daN, Stroke 10 - 125 mm, Ø M16x1,5 - M24x1,5	NC.091 - NC.094	NC.091. 1 - 13
	Pneumatik-Federn, Serie NC.110 80 - 200 daN. Hub 12.7 - 160 mm, Ø 95 - 230 mm	Pneumatic springs, NC.110 series, 80 - 200 daN. Stroke 12.7 - 160 mm, Ø 95 - 230 mm	NC.110	NC.110. 1 - 12
	Gasdruckfedern, Teileheber	Gas springs, Stripper	NCF.1 NCF.3	NC.120. 1 - 2

	Zubehör Gasdruckfedern	Gas spring accessories	Best.-Nr. Order no.	Seite Page
	Abfüllarmatur	Charging assembly	HS NCA 3000	NC.130.15
	Ablassventil	Bleeding valve	NCR.99.061	NC.130.25
	Anschlussstück	Adapter	NCI.BK.KRM6	NC.130.27
	Anschlussstück	Adapter	NCI.BK.KRM8	NC.130.27
	Anschlussstück	Adapter	NCI.BK.90BK	NC.130.27
	Anschlussstück	Adapter	NCI.BK.TEBK	NC.130.28
	Anschlussstück	Adapter	NCI.BK.KRMK	NC.130.28
	Anschlussstück	Adapter	NCI.BK.KCMK	NC.130.28
	Anschlussstück	Adapter	NCI.BK.KTMK	NC.130.28
	Anschlussstück, 1-fach	One way adapter	NCZ.01	NC.130.29
	Anschlussstück, 2-fach	Two way adapter	NCZ.02	NC.130.29
	Anschlussstück, 3-fach	Three way adapter	NCZ.03	NC.130.30

	Zubehör Gasdruckfedern	Gas spring accessories	Best.-Nr. Order no.	Seite Page
	Anschlussstück, 4-fach	Four way adapter	NCZ.04	NC.130.30
	Anschlussstück, 5-fach	Five way adapter	NCZ.05	NC.130.31
	Anschlussstück, gerade	Straight fitting	HS NF 1001-4-G1/8“	NC.130.17 NC.130.22
	Anschlussstück Kreuz	Adapter cross	HS NF 5500-4 HS NF 5501-4	NC.130.18 NC.130.22
	Anschlussstück mit Adapter	Straight fitting with adapter	HS NF 1003-4-G1/8“	NC.130.25
	Anschlussstück mit Ventil und Schutzkappe	Adapter with valve and cover	NCI.00.012	NC.130.26
	Berstscheibe 360 bar Berstscheibe 517 bar	Rupture disk 360 bar Rupture disk 517 bar	NCR.99.139 NCR.99.140	NC.130.25
	Drehmomentschlüssel	Torque wrench	NCTU.00.009	NC.130.33
	Druckeinheit	Accumulator	NCTU.00.016	NC.130.36
	Druckplatten	Thrust plates	NCP SPVD NCP SPFI NCP SPPS	NC.130.1 NC.130.2
	Druckwächter	Pressure monitor	HS Z 20	NC.130.7
	Entlüftungs-Werkzeug, G1/8“ Entlüftungs-Werkzeug, M6	Bleeding tool, G1/8“ Bleeding tool, M6	NCTU.00.550	NC.130.33
	Hinweisschild	Sign	NC Hinweis-schild	NC.130.14
	Hochdruckschlauch	High pressure hose, flexible	HS NH 200 HS NH 220 NCX.20.00.010	NC.130.19 NC.130.27
	Hochdruckschlauch komplett mit Pressarmaturen, 24° Konus	High pressure hose, complete with pressed-on adapters, 24° Taper	HS NH 220…	NC.130.23
	Hochdruckschlauch komplett mit Pressarmaturen, 37° Konus	High pressure hose, complete with pressed-on adapters, 37°Taper	HS NH 220… HS NH 200…	NC.130.20 NC.130.21
	Kontroll-/Ladearmatur	Pressure controller unit	NCCA.1.1	NC.130.16
	Kontrollarmatur auslaufend	Control panel phasing out	NCCP.1.2	NC.130.5
	Kontrollarmatur auslaufend	Control panel phasing out	NCCP.1.1	NC.130.5
	Kontrollarmatur	Control panel	NCCP.600.2 NCCP.600.2.1 NCCP.600.2.2	NC.130.6

	Zubehör Gasdruckfedern	**Gas spring accessories**	**Best.-Nr. Order no.**	**Seite Page**
	Kontrollarmatur 400 bar Kontrollarmatur 600 bar	Control panel 400 bar Control panel 600 bar	NCTU.00.037 NCTU.00.038	NC.130.25
	Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern, Standgerät	Dynamometer with digital display, Floor	NCTU.300	NC.130.35
	Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern, Tischgerät	Dynamometer with digital display, Table	NCTU.200	NC.130.34
	Ladeadapter	Charging adapter	NCQ	NC.130.11 NC.130.25 NC.130.33
	Ladeschlauch	Charging hose	HS NCCS	NC.130.15
	L-Anschlussstück	L-Connector	HS NF 3300- HS NF 3301- 4-G1/8”	NC.130.17 NC.130.22
	L-Stück mit Überwurfmutter	L-Connector with connecting nut	HS NF 3300-4	NC.130.18
	Montage-Werkzeug (Kolbenstange), M6 Montage-Werkzeug (Kolbenstange), M8	Assembly tool (Piston rod), M6 Assembly tool (Piston rod), M8	NCTU.00.006 NCTU.00.008	NC.130.32
	Multi-Kontrollarmatur	Multi-Control-Unit	NCCP.7.4	NC.130.6
	Pressarmatur 45°	Crimping fittings 45°	HS NHP 2-45 HS NHP 3-45	NC.130.19
	Pressarmatur 90°	Crimping fittings 90°	HS NHP 2-90 HS NHP 3-90	NC.130.19
	Pressarmatur, gerade	Crimping fittings, straight	HS NHP 2 HS NHP 3 NCT.BKRT	NC.130.19 NC.130.27
	Schlauch	Hose	NCX.12	NC.130.26
	Schlauch	Hose	NCX.13	NC.130.26
	Schlauch	Hose	NCX.15	NC.130.26
	Schlauch	Hose	NCX.BK NCX.BK…G	NC.130.27
	Schlauchpresse	Crimping press	HS KarryKrimp 1	NC.130.27
	Schlauschelle	Hose clamps	NCR.99.176 NCR.99.102	NC:130.25 NC.130.27
	Sechskantschlüssel	Hexagon socket head wrench	NCTU.00.030	NC.130.33
	Speichertank	Compression tank	HS ST	NC.130.13

	Zubehör Gasdruckfedern	**Gas spring accessories**	**Best.-Nr. Order no.**	**Seite Page**
	Steckkupplung	Female quick release coupling	HS 11-770-2700	NC.130.12
	Stecknippel	Male quick release coupling	NCT.1.14	NC.130.11
	Stecknippel	Male quick release coupling	HS 11-700-8555	NC.130.12
	Stopfen	Plug	NCP.99.096	NC.130.33
	T-Anschlussstück	T-Coupling	HS NF 3001-4 HS NF 3500-4 HS NF 3501-4	NC.130.18 NC.130.22
	T-Stück	T-Connector	HS NF 3000-4-G1/8”	NC.130.17
	T-Stück mit Überwurfmutter	T-Connector with connecting nut	HS NF 3000-4	NC.130.18
	Ventil	Valve	NCTU.01.002 NCR.99.098	NC.130.32 NC.130.33
	Ventil-Werkzeug	Valve-tool	NCTU.00.003	NC.130.32
	Ventil-Zange	Valve-pliers	NCTU.00.001	NC.130.32
	Verschlussstopfen	Plug	NCR.99.039	NC.130.26
	Verteilerblock	Distribution blocks	NCCC.1.2 NCCC.1.4 NCCC.6.6	NC.130.8 NC.130.9
	Verteilerleiste	Distribution blocks	NCCC.1.7	NC.130.9
	Verteilerleiste	Distribution blocks	NCCC.1.10.01	NC.130.10
	Werkzeugsatz für Montage	Toolkit for assembling	NCTU.00.033	NC.130.38
	Winkelstück 45°	Threaded joint, 45°	HS NF 4500-4-G1/8” HS NF 4501-4	NC.130.17 NC.130.22
	Winkelstück 45° mit Überwurfmutter	Threaded joint, 45°, with connecting nut	HS NF 4500-4	NC.130.18
	Winkelstück 90°	Threaded joint, 90°	HS NF 2500-4 HS NF 2501-4	NC.130.18 NC.130.22
	Winkelstück 90°	Threaded joint, 90°	HS NF 2000-4-G1/8” HS NF 2001-4	NC.130.17 NC.130.22
	Winkelstück 90° mit Überwurfmutter	Threaded joint, 90°, with connecting nut	HS NF 2000-4	NC.130.18

Märkische Stanz-Partner

[technischeHinweise]

NitroCyl Gasdruckfedern

Gasdruckfedern sind eine sinnvolle Ergänzung zu den in der Praxis benutzten Schrauben, Teller- oder Urelastfedern. Allerdings sind die Vorteile der Gasdruckfedern beachtlich. So können auch in Werkzeuge und Pressen mit begrenztem Einbauraum hohe Kräfte und Hubwege eingebracht werden. Ein weiterer Vorteil ist der geringe Druckanstieg, wie auch die einfache Kraftveränderung gegenüber den Schrauben-, Teller- oder Urlastfedern. So können sich diese Vorteile positiv bei der Teilefertigung und bei den Werkzeugen und Pressen auswirken.
Die Gasdruckfedern werden mit dem umweltfreundlichen Medium “Stickstoff” gefüllt. Durch das variable Befüllen der Gasdruckfedern zwischen 20 bar min. und 150/180/200 bar max. ist es möglich, die exakte Kraft, die benötigt wird, zu erreichen. Es ist darauf zu achten, dass der max. Druck für die einzelnen Gasdruckfeder-Typen von max. 150/180/200 bar nicht überschritten wird. NitroCyl Gasdruckfedern können je nach Anforderung als Einzelelement oder auch im Verbund (Schlauchverbindungen) eingesetzt werden. Die Gasdruckfedern werden nach neuesten Technologien gefertigt und haben einen hohen Qualitäts-Standard.
Sind Werkzeuge, Vorrichtungen oder Pressen mit Gasdruckfedern bestückt, so sollte mit einem Hinweis-Schild (welches gut sichtbar sein sollte) darauf hingewiesen werden.

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ACHTUNG

Werkzeug/Presse ist mit Gasdruckfedern bestückt.

Fülldruck max. 150 bar - 180 bar - 200 bar

Achtung:
Arbeiten am System nur im drucklosen Zustand.
Bitte Wartungsanleitung lesen.

Druck max. ..... bar Arbeitsdruck ..... bar

Achtung:
Wartungsarbeiten nur, wenn das Stickstoff-System drucklos ist. Lesen Sie die Wartungsanleitung. Wartungsarbeiten werden auch durch unser Fachpersonal ausgeführt. Bitte sprechen Sie uns an.

ZUGELASSEN PED 97/23/EG

Gasdruckfedern und Stickstoffsysteme unterliegen hinsichtlich Wartungsintervallen u.ä. gesetzlichen Vorschriften, die länderspezifisch voneinander abweichen. In Deutschland sind diese z.B. u.a. in der Betriabssicherheitsverordnung geregelt.

NitroCyl Gasdruckfedern werden entsprechend der Druckgeräte-Richtlinie 97/23/EG gefertigt (PED Zertifikat Nummer 21126-2).

Vom Europäischen Parlament und dem Europarat wurde im Mai 1997 die neue Druckgeräte-Richtlinie angenommen und seit dem 29. Mai 2002 in der gesamten EG zwingend vorgeschrieben. Gasdruckfedern sind per Definition “Druckbehälter”.

zertifiziert ISO 9001 for you Cert

MSPN GMBH

Märkische Stanz-Partner

[technicalinformation]

NitroCyl Gas Springs

Gas Springs are a perfect addition to the commonly used mechanical-, urelast- or disc-springs, offering quite some advantages. For example, even in dies and presses providing limited space, high forces and long strokes can be accomplished.

Another advantage is the slow pressure increase as well as the easy readjustment of forces when needed. Gas springs are filled with the environment-friendly „nitrogen“ - gas.

By charging the spring in between 20 and 150 (in some cases 180 or 200 max. !!) bar, the user has the possibility to obtain exactly the force needed for the specific application.

NitroCyl Gas Springs may be used as stand-alones, but can be hosed together as well.
They are manufactured using the latest production technologies and with high technical and safety standards.
In case dies or presses utilize gas springs, a big-enough sign should inform the user about them being built in.

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Attention

This die / this press utilizes nitrogen gas springs with high pressure
(150 bar - 180 bar - 200 bar) and the resulting very high forces.

Repair and maintenance must only take place after the unit(s)
have been unloaded and unpressured !

Pressure max. ..... bar Working pressure ..... bar

Attention:
Repair and Maintenance must onlytake place of after the unit(s) have been unloaded and unpressured !
Please read maintenance manual. If you require assistance, please contact us.

ZUGELASSEN PED 97/23/EG

Gas springs and corresponding systems are subject to (f.e.) preventive maintenance as outlined in country specific legislation. In Germany this is governed for example by the Industrial Safety Regulation, amongst others.

NitroCyl gas springs are manufactured in accordance with the PED-directive 97/23EG.

In May 1997 the European Parliament and the Council of Europe agreed on the new „Pressure Equipment Directive“, which in 2002 became law throughout the EC.

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MSPN GMBH

Märkische Stanz-Partner

[bedienungsanleitung]

NitroCyl-Gasdruckfedern

Einbau, Sicherheits- und Bedienungshinweise

Die richtige Auswahl von Gasdruckfedern und Zubehör während der Konstruktionsphase hilft Kosten und Probleme zu vermeiden und sichert so einen zuverlässigen Betrieb der Werkzeuge und Maschinen zu.

Sicherheit
Stickstoff-System-Federn sind befüllte Druckbehälter mit einem Maximal-Druck von 150/180/200 bar. Wartungsarbeiten oder Änderungen an Stickstoff-System-Federn dürfen nur im drucklosen Zustand vorgenommen werden.
Achtung: System durch Öffnen der Ventile drucklos machen!!!
Diese Arbeiten sollten nur vom geschulten Personal der Firmen NitroCyl oder MSPN durchgeführt werden.
Bei unsachgemäßem Einsatz von Gasdruckfedern oder Systemen drohen Gefahren für:
• Gesundheit
• Werkzeuge oder Pressen
was mit hohen Kosten verbunden sein kann.

Anwendung/ Einbau
Gasdruckfedern dürfen nur mit handelsüblichem Stickstoff befüllt werden. Der Befüll-Druck liegt bei min. 20 bar und max. 150/180/200 bar bei einer Raumtemperatur von 20 °C. Der max. Druck darf nicht überschritten werden, da sonst keine Gewährleistung für die Sicherheit und Standzeit der Gasdruckfedern gegeben ist. Auch sollte die max. Arbeitstemperatur von 80 °C nicht überschritten werden.
Hohe Temperaturen wirken sich negativ auf die Dichtungen aus und minimieren so die Standzeit.

NitroCyl-Gasdruckfedern sollten über das Bodengewinde oder Flansche sowie Haltestücke befestigt werden. Werden Gasdruckfedern in Aufnahmebohrungen / Kavitäten eingebracht, so sollte der Aufnahmedurchmesser nur ca. 1 mm größer als der Feder-Außendurchmesser sein, um so unerwünschtes Kippen auszuschließen. Wird eine Gasdruckfeder mit einem kleineren Körperdurchmesser in einen größeren Bohrungsdurchmesser eingebaut und nicht befestigt, so muss eine Ausgleichshülse über die Federn geschoben werden. Die Tiefe der Aufnahmebohrung / Kavität sollte ca. 85 % der Körperlänge nicht überschreiten.

Die Kolbenstange der Gasdruckfeder sollte vor Schmutz und mechanischer Beschädigung geschützt werden. Es ist auch darauf zu achten, dass ein Überfluten der Gasdruckfeder mit Öl / Ziehemulsion vermieden wird. Das Überfluten kann durch Einbringen von Drainage-Bohrungen / -Kanälen vermieden werden.
Auch muss darauf geachtet werden, dass die Kolbenstange der Gasdruckfeder bei Entlastung nicht ungebremst zurückschnellt. In diesem Fall können innere Bauteile zerstört werden.

Der Einbau der Gasdruckfedern im Werkzeug oder in der Presse muss immer parallel zur Krafteinleitung erfolgen. Ebenso muss die Gasdruckfeder, die Auflagefläche für Zylinderflansche und die betätigte Kontaktfläche im rechten Winkel zur Krafteinleitung stehen. Die beaufschlagten Kontaktflächen sollten eine ausreichende Härte aufweisen.

Das Gewinde in der Feder-Kolbenstange darf nicht benutzt werden, um die Federn zu fixieren, z. B. um die Gasdruckfeder mit dem Werkzeug der Abstreiferplatte zu verschrauben. Es können hierdurch seitliche Kräfte auftreten, was zu Beschädigungen an Dichtungen und Kolbenstange führt. Dies hätte eine Verringerung der Standzeit zur Folge. Das Kolbenstangen-Gewinde dient ausschließlich Wartungs- und Reparaturarbeiten.

Nach Möglichkeit sollte eine 10 %ige Hub-Reserve berücksichtigt werden.

Maximale Kolbengeschwindigkeit: 0,5 / 1,6 / 2,0 m/sec (Gasdruckfeder-Typen abhängig).

Märkische Stanz-Partner

[operatinginstructions]

NitroCyl Gas Springs

Assembly, Maintenance, Safety

The careful selection of gas springs and corresponding components during the design phase reduces cost and eliminates possible problems, and thereby ensures a reliable performance of dies and presses during production.

Safety:
Gas springs are high-charged pressure devices with a max. pressure of 150 bar (in some cases 180 bar or 200 bar max. !!). Repair and maintenance must only take place after the unit(s) have been unloaded and unpressured!
This happens through opening of the filling- / bleeding - valve of any given system.
Any repair or maintenance work should only be handled by skilled technicians of MSP-N, or people at the customer‘s plant that have been specifically trained for these tasks by MSP-N - technicians.
If not handled 100% accurately, there are dangerous threats for the health (possibly life !!!) of the people involved, as well as potentially for dies and presses.

Assembly:
Gas springs may only be charged with Nitrogen. The pressure ranges between 20 and 150 bar (in some cases 180 bar or 200 bar max. !!) at room temperature (20 ºC). The maximum nominal pressure must not be exceeded, since safety and operating lifetime will suffer and cannot longer be guaranteed. Additionally, the working temperature should not exceed 80 ºC, since higher temperatures have a negative impact on the lifetime of the seals.

NitroCyl gas springs should be mounted using bottom threads, flanges or clamps. If put in cavities, the corresponding diameter should be only 1 mm larger than the spring OD to avoid tilting. If a gas spring with a smaller diameter needs to be put into a cavity with a larger OD and is not mounted, a compensating sleeve may be used. The depth of the cavity should - if possible - not exceed 85% of the gas spring body-length.
The gas spring rod should be protected from dirt and mechanical damage. A „flooding“ of the gas spring with oils or similar fluids must be avoided. If needed, drain-holes have to be provided.

It has to be kept in mind, that the rods must not return into 0-Position at full speed, which can destroy internal components.

Gas springs have to be mounted in dies and presses parallel to the direction of the force - application. At the same time the flange-flats and the attached surfaces - which should have a sufficient hardness - need to be at an angle of 90º to the force-application.

It is prohibited to use the thread in the rod to fix the gas spring, f. e. to connect the spring to a stripper plate. Since this mounting could result in side load forces, the rod itself and seals could be damaged, thereby reducing lifetime.
The rod-thread is meant for maintenance - purposes only.

A 10% stroke-buffer should be considered (min. 3 mm).

The maximum rod-speed, depending on the gas-spring family, of 0,5 / 1,6 or 2,0 m/sec. needs to be respected.

Konformitätserklärung

NitroCyl - Gasdruckfedern

ZUGELASSEN PED 97/23/EG

EG KONFORMITÄTSERKLÄRUNG

ausgestellt gemäss: der Druckgeräte-Richtlinie PED 97/23/EG

Wir erklären hiermit die Übereinstimmung der nachstehend beschriebenen Produkte mit der Druckgeräte-Richtlinie PED 97/23/EG gemäß folgender Konformitäts-Bewertung:

- Modul A
  „Interne Fertigungskontrolle" .

  Modul A1:
  „Interne Fertigungskontrolle mit Überwachung der Abnahme", zertifiziert von ATISAE, dem spanischen Industrie und Energieministerium als befügtes Prüforgan (Zulassungsorgan Nr. 0053)

Produktbeschreibung: Gasdruckfedern zum Einbau in Werkzeuge oder Maschinen.

NitroCyl S.A. C/Arriurdina 1 E-01015 Vitoria-SPANIEN

Declaration of Conformity

NitroCyl - Gas Springs

APPROVED PED 97/23/EC

EC DECLARATION OF CONFORMITY

Issued in accordance with the Pressure Equipment Directive 97/23/EC

We hereby declare that in the compliance with the above Directive, the products detailed below have been designed and manufactured in accordance with the following conformity assessment:

- Module A
„Internal production control“.

- Module A1
„internal manufacturing checks with monitoring of the final assessment“
as approved by ATISAE (Notified Body No. 0053), under the below
EC Design Examination Certificate No.

Product description: Gas Springs, intended for installation in a tool or machine

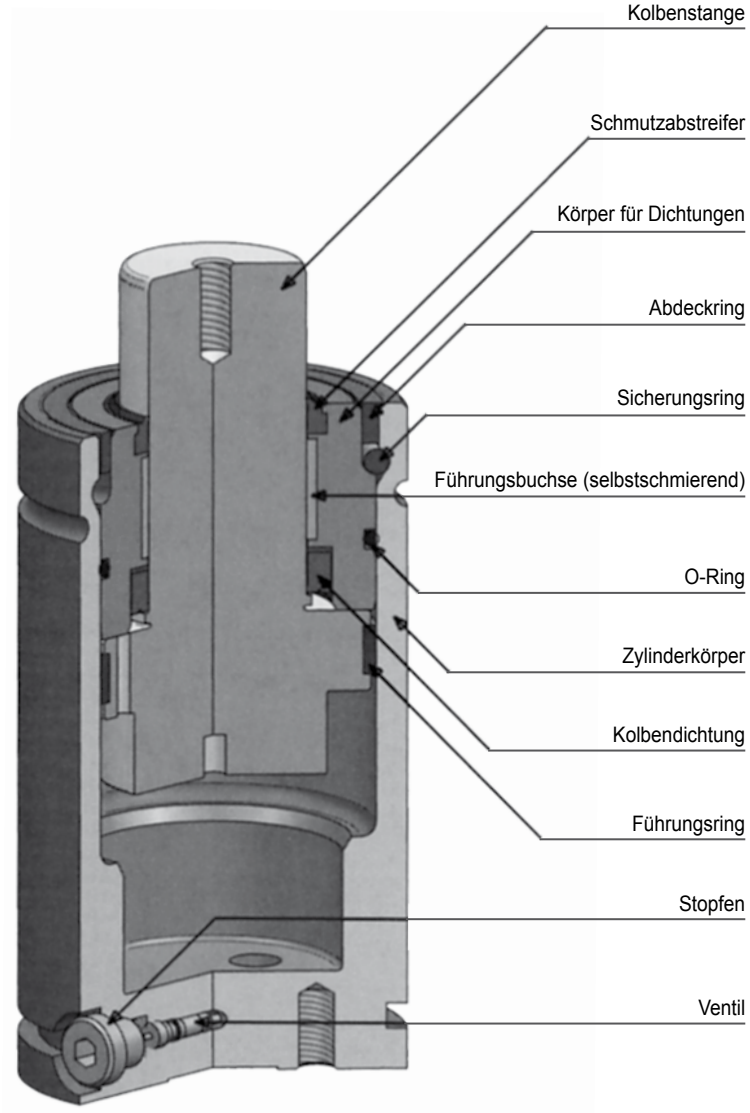
NitroCyl S.A. C/Arriurdina 1 E-01015 Vitoria-SPANIEN

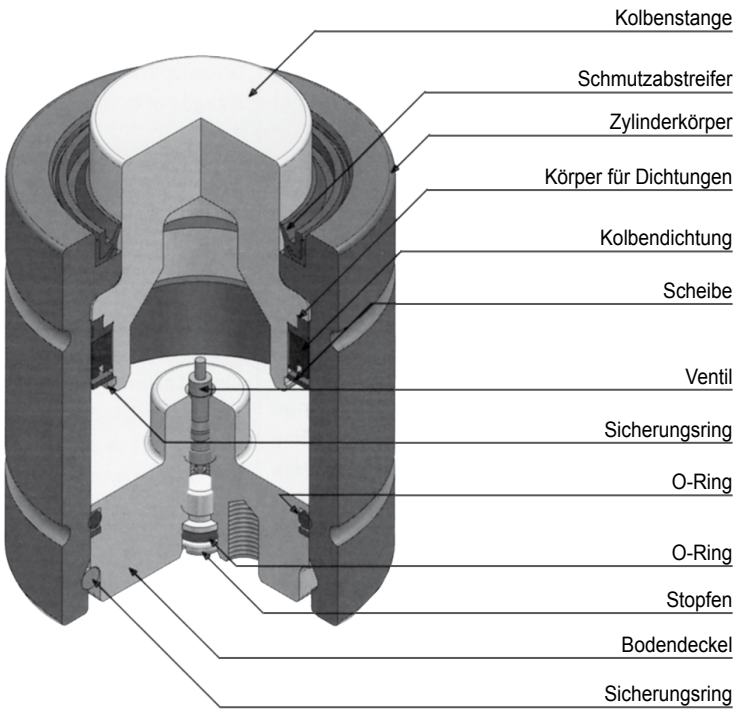
Information

Dort, wo in Werkzeugen, Maschinen oder sonstigen Vorrichtungen Federelemente aus Stahl, Elastomere oder Gummi aufgrund ihrer Größe nicht unterzubringen sind, bieten sich die äußerst kompakten autonomen NitroCyl-Stickstoff-Federsysteme an. Die Federn werden nach strengen Qualitätskriterien und entsprechend den üblichen Sicherheitsvorschriften gefertigt.
Durch einen speziell konstruierten Kolbenkopf wird gewährleistet, dass bei defekten oder beschädigten Federn ein Herausschleudern der Kolbenstange aus dem Federkörper verhindert wird.
Die autonomen Gasdruckfedern sind mit einem eigenen Speicherraum für handelsüblichen Stickstoff ausgestattet und benötigen keinen zusätzlichen Speichertank. Sollte es nötig sein, können die Federn durch Schläuche miteinander verbunden und über eine Kontrollarmatur befüllt werden.
Alle Gasdruckfedern werden, soweit nicht anders angegeben, mit einem max. Fülldruck von **150/180/200 bar** ausgeliefert. Aus Gründen der Sicherheit sollte ein Fülldruck von 20 bar nicht unterschritten werden, da sich die Dichtsysteme verändern und Undichtigkeiten auftreten können.

Zusatzinformation:
- Beim Einbau sollte die Rechtwinkligkeit zwischen Federkörper und Grundfläche auf jeden Fall angestrebt werden, wenngleich der Federkörper auftretende Seitendrücke aufgrund einer Winkelabweichung der Kolbenstange von 1-2° im Normalfall absorbieren kann.
- Bei exaktem Einbau und unter Berücksichtigung aller Kriterien kann von einer langen Lebensdauer ausgegangen werden.
- Die Federauslegung sollte so erfolgen, dass die Kolbenstange nicht permanent über den maximalen Hub fährt. In diesem Fall wäre die Wahl der nächstgrößeren Hublänge sinnvoll.

Hinweis:
Bei Verschlauchung empfehlen wir ausschließlich Gasdruckfedertypen mit Anschlussgewinde G1/8“ zu verwenden.





Information

Wherever in dies, machines and fixtures mechanical springs made out of steel, urelast or rubber cannot (because of their size) be accommodated, NitroCyl gas springs present themselves as a perfect alternative.
They are manufactured using the latest production technologies and with high technical and safety standards.
The design of the lower rod avoids the ejection of the rod itself in case of a defect or damage.
The stand-alone gas springs have their own nitrogen-storage built in and do not need any additional external tanks.
If needed / wanted, they can be hosed together and charged via a control panel.
The charging pressure at 20 ºC is 150 bar, exceptions to run at 180 and 200 bar.
For safety reasons, a minimum pressure of 20 bar should be kept at all times, since otherwise the sealing system may change up to a point of unreliability.

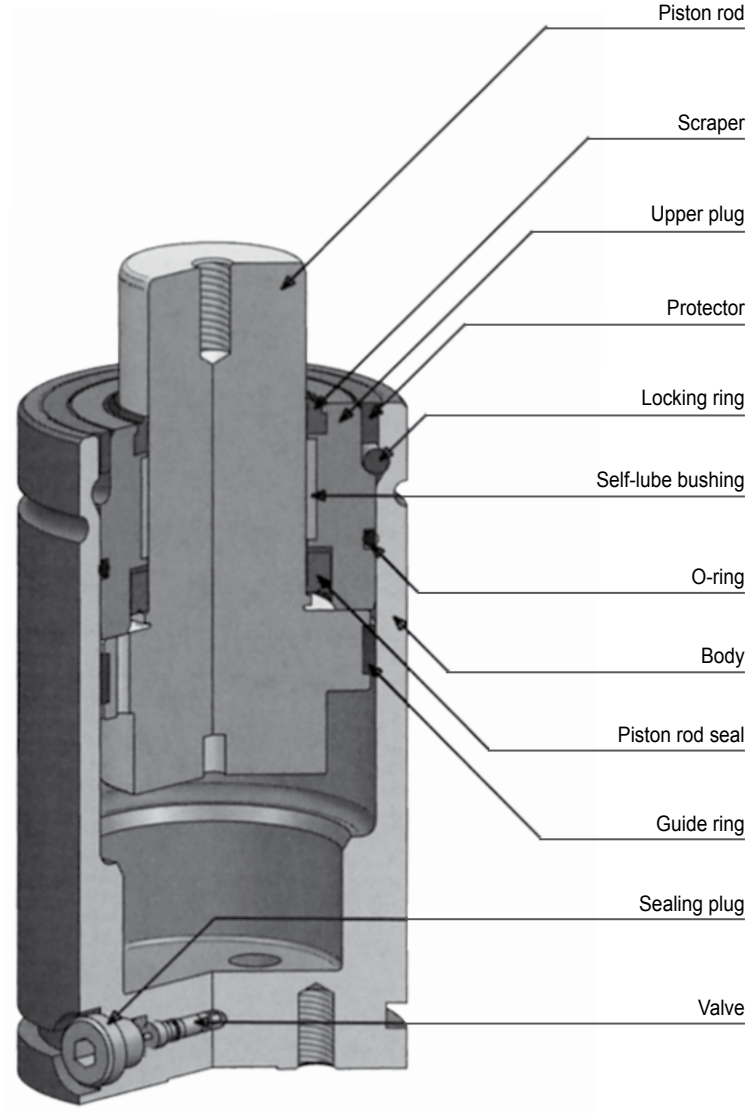
Additional information:

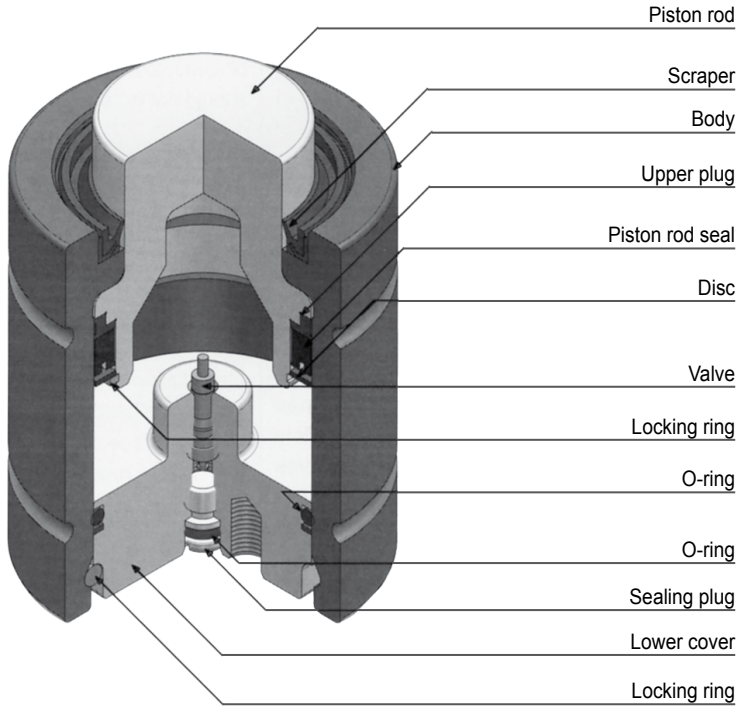
- It has to be ensured, that the gas spring does not overstroke. If there seems to be a possibility for that scenario, the next longer stroke-length must be used.

- Although usually the gas spring can absorb a non-perpendicularity of 1-2 degrees. During assembly it is important to align the gas spring body under an as-exact-as-possible 90º angle to the mounting, parallel surface.

- If the instructions are followed, a long service life can be assumed. For exact, gas-spring-specific information please contact our technical support.

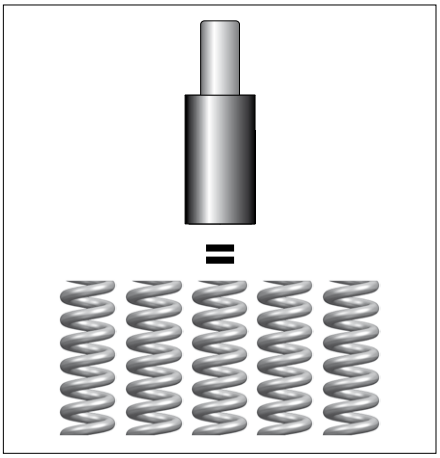
- In case gas springs need to be hosed together, we recommend using G1/8 - threads only.





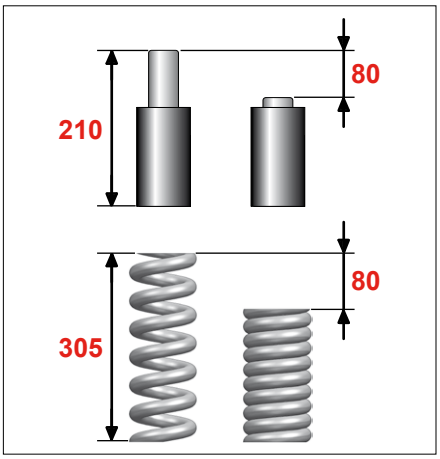
Information

Beansprucht weniger Platz, Höhe und Volumen



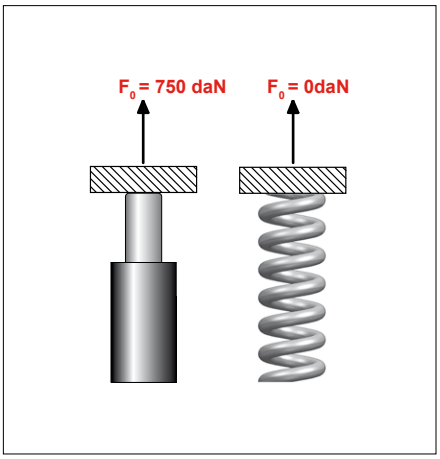
Reduction of surface area used, height, and volume occupied.

Im Allgemeinen beträchliche Verminderung der Höhe bei gleichem Hub und gleicher Kraft. Kompaktere Werkzeugkonstruktion möglich.



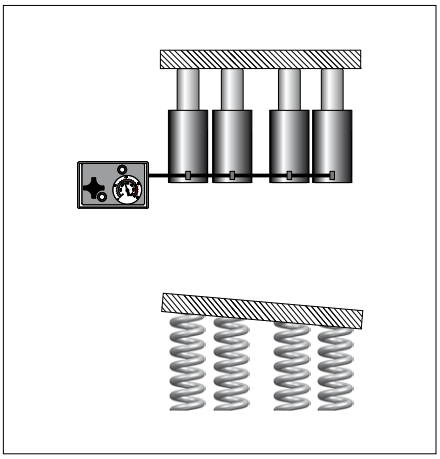
Considerable height reduction for the same work stroke and force. Compact tool construction possible.

Kein Bedarf an Vorrichtungen für Vorspannen, Führung und Aufnahme. Beseitigung der Vorspannung.



Considerable reduction of retaining devices to preload. No preload required.

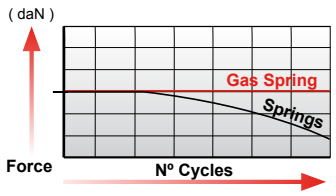
Stets ausgeglichene und gleichförmige Kraft an allen Kontaktpunkten. Ständige Sichtanzeige des Betriebsdrucks.



Always the same force on each contact point. System may be continually pressure monitored.

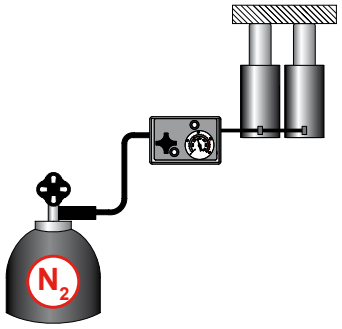
Information

Bessere Kontrolle des Werkstücks während der Phasen des Formens und des Ziehens. Bessere Qualität der fertigen Werkstücke. Weniger Ausschuss.



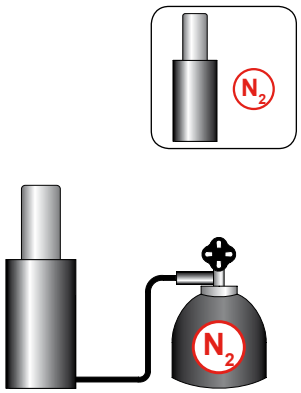
Controlled production conditions on sheet metal parts during forming and drawing operations. Less rejection of final products.

Anpassung der Zylinder an die effektiv erforderliche Kraft. Gewissheit der definierten Kräfte. Verwendung desselben Zylinders für unterschiedliche Arbeiten.



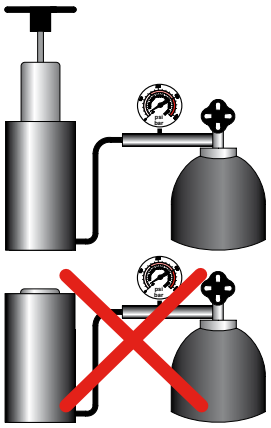
Gas springs adjustable to provide the real forces required. Assurance of defined forces. The same cylinder may be re-used for different applications.

Gasdruckfedern dürfen nur mit Stickstoff (N_2) gefüllt werden.



Charge only with NITROGEN (N_2).

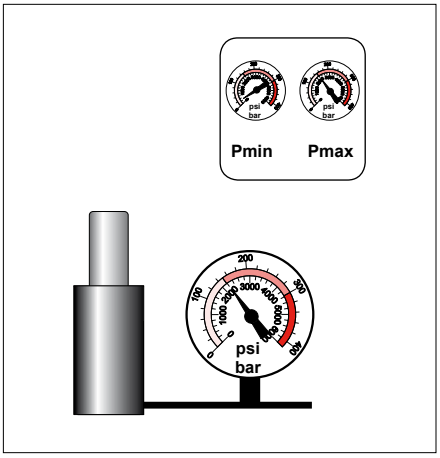
Befüllung der Gasdruckfeder nur bei voll ausgefahrener Kolbenstange.



Never fill a gas spring when the piston rod is not fully extended.

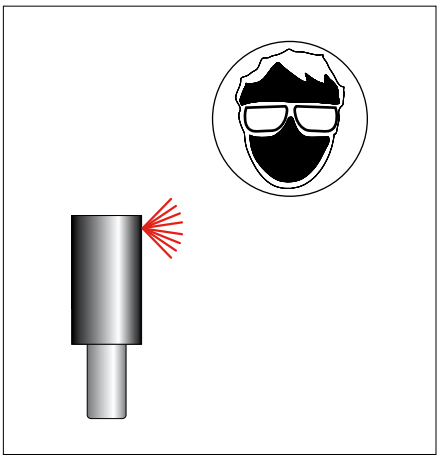
Information

Befüllen Sie die Gasdruckfedern nur zwischen dem zulässigen Maximal- und Minimal-Druck.



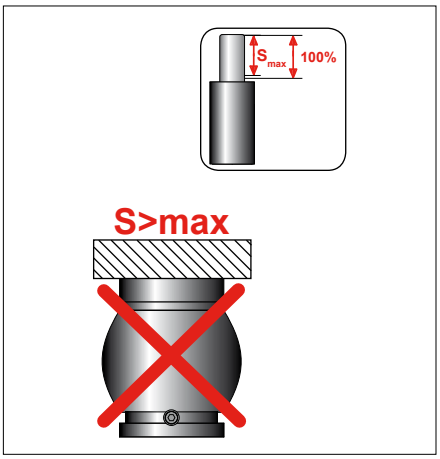
Only charge the gas springs within the allowed pressure-ranges.

Beim Entladen Ventil nicht auf Personen richten.



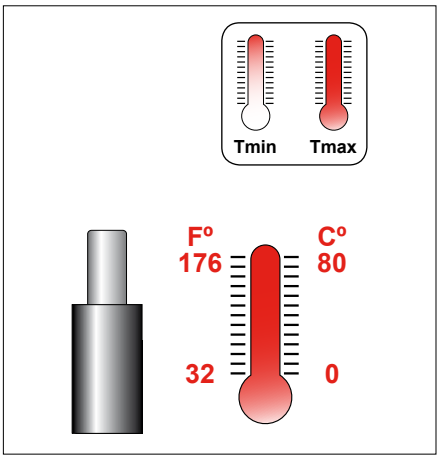
When discharging a gas spring point the gas flow away from operator or anybody else.

Es wird empfohlen, eine 10%ige Hubreserve einzuplanen. Ein Überhub führt zur Zerstörung der Gasdruckfeder mit großen Risiken für Gesundheit und Leben von Personen.



Maximum recommended stroke 90%. Overstroke would cause damages to the cylinder and jeopardize health and even life of people.

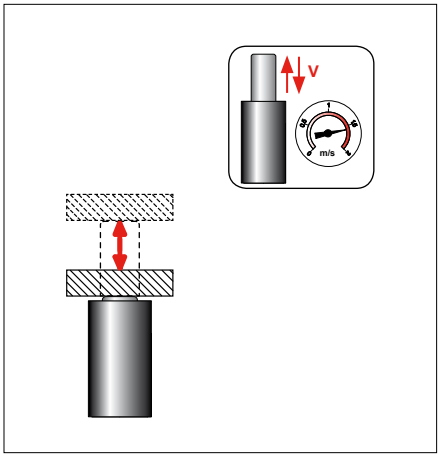
Arbeitstemperatur



Operating temperature

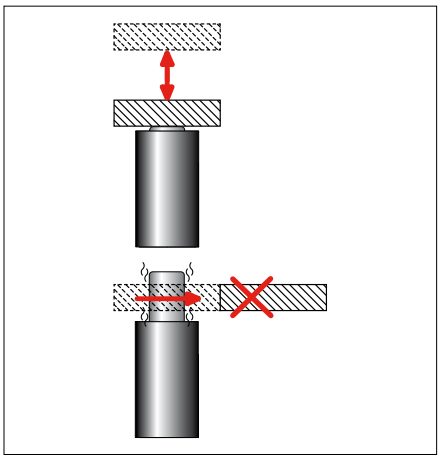
Information

Überschreiten Sie nicht die maximal zulässige Kolbengeschwindigkeit.



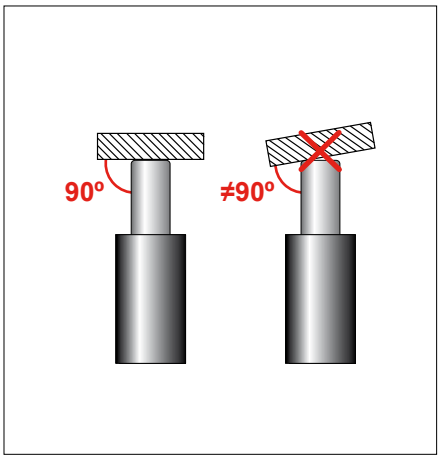
Do not exceed the maximum allowed rod speed.

Ein freier Rückhub muss vermieden werden, um Beschädigungen an der Gasdruckfeder zu vermeiden.



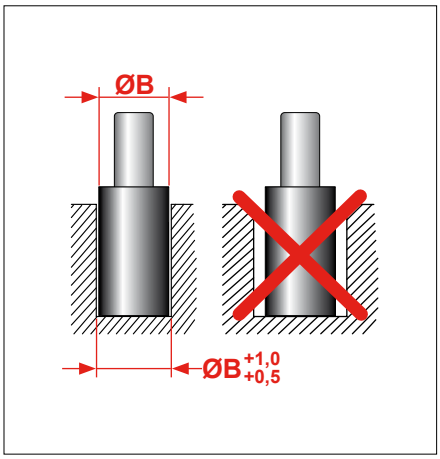
Avoid free release of the piston rod, this would cause damages to the gas spring.

Es dürfen keine seitlichen Kräfte auf die Gasdruckfedern wirken, da sich sonst die Lebensdauer wesentlich verringert.



Gas springs must always work completely perpendicular to the contact surface. Side loads increase wearing and reduce life expectancy.

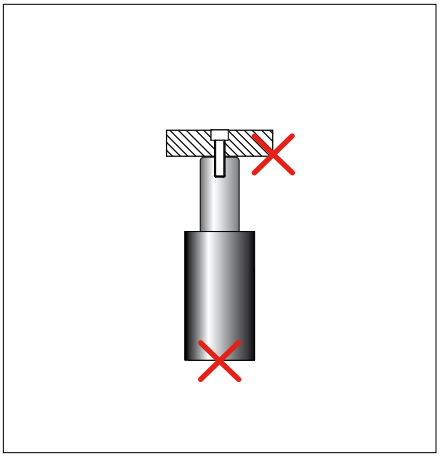
Werden Gasdruckfedern in Kavitäten eingebaut, so sollte der Bohrungs-Ø nur 1 mm größer als der Federdurchmesser sein.



When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter.

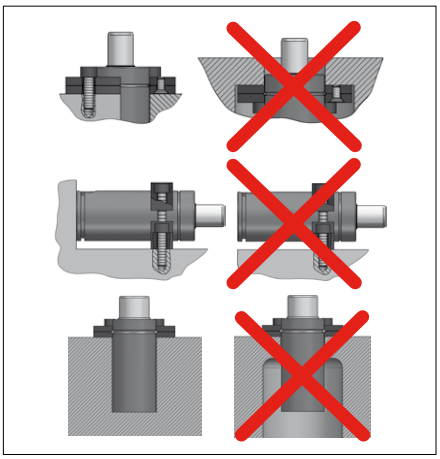
Information

Das Gewinde in der Kolbenstange dient nur zu Wartungsarbeiten und darf nicht zur Befestigung der Gasdruckfeder benutzt werden.
Das Mittengewinde im Boden einiger Gasdruckfedern sollte unter Berücksichtigung möglicher Seitenkräfte - besonders bei langhubigen Federn - nur sehr selektiv für die Befestigung genutzt werden.
In jedem Fall müssen die Schraubenlängen so gewählt werden, dass das tiefer liegende Ventil nicht beschädigt wird.



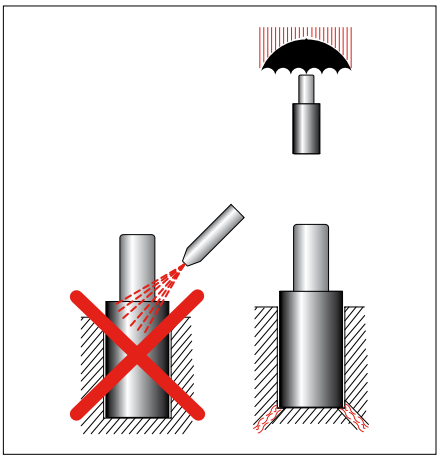
Do not use the piston rod threaded hole for fixing the gas spring into the tool. This hole is only to be used for maintenance operations. The centre-thread in the bottom of these gas springs be used very carefully, especially taking possible side loads of long-stroke springs into account.
In any case: In order not to destroy the internal valve, the screw-lengths have to be given special consideration and selected carefully.

Die Fixierung der Gasdruckfeder sollte mit der vorgesehenen Befestigung erfolgen.



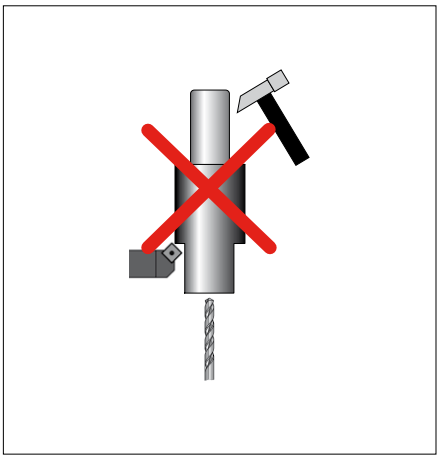
Fix the gas spring into the tool through the appropriate mount.

Schützen Sie die Gasdruckfedern vor Kontakt mit festen oder flüssigen Verschmutzungen. Bei Einbau in Kavitäten müssen Drainage-Kanäle eingebracht werden.



Protect the gas springs from solid or liquid contaminants. Provide adequate drainage in gas springs pockets.

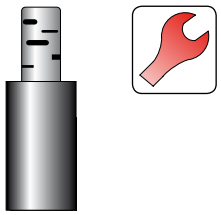
Schützen Sie die Gasdruckfeder insgesamt (besonders Körper und Kolbenstangen) gegen mechanische Beschädigung.



Avoid whatever impatct and do not perform any mechanical work on the gas spring body or piston rod.

Information

Gasdruckfedern mit Kratzern auf der Kolbenstangenoberfläche sollten ersetzt werden.

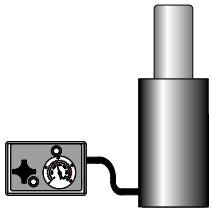


Gas springs with scratches on the piston rod surface should be replaced.

Arbeiten an den Gasdruckfedern dürfen ausschließlich von geschulten Mitarbeitern durchgeführt werden. Die technischen Hinweise, Vorgaben und Anweisungen von NitroCyl / MSPN müssen unbedingt und jederzeit befolgt werden.

Gas springs maintenance must be carried out only by skilled personnel, with the appropriate training, and always following the operating and service instructions from NitroCyl / MSPN.

Die meisten NitroCyl-Gasdruckfedern können durch Verschlauchung in einem Verbundsystem arbeiten. Das erleichtert das Steuern, Ablesen und das Anpassen des Druckes.



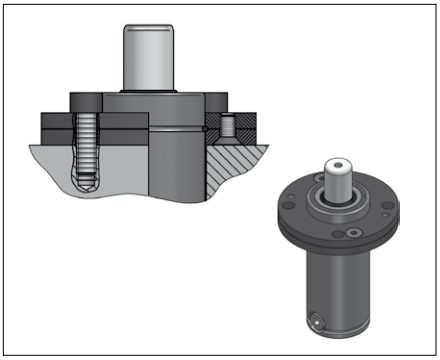
Most of NitroCyl gas springs can be used into linked systems. Linked systems allow users to easily monitor, control and adjust pressure.

Die Bestimmungen der Druckgeräte-Richtlinie (97/23/EG) sind besonders zu beachten. NitroCyl empfiehlt, die Gasdruckfedern nach 2 Millionen Hüben, spätestens nach 10 Jahren, zu ersetzen.

Follow the regulation related to the pressure equipment devices PED 97/23/CE as for inspection and safety of gas springs. NitroCyl recommend to replace gas springs after 2 million strokes.

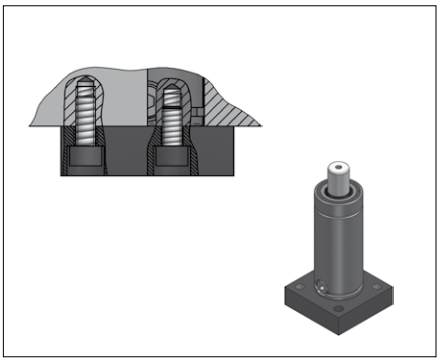
Information

Oberer runder Nut-Flansch



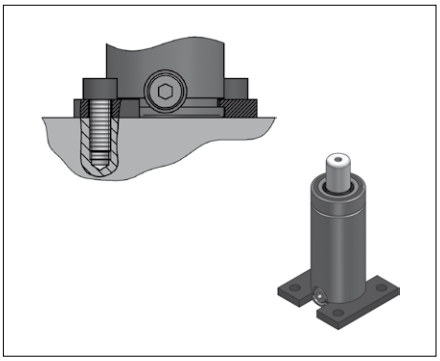
Upper round groove flange

Untere Befestigungsplatte



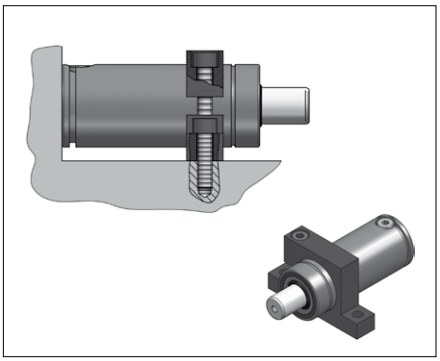
Bottom mount plate

Unterer quadratischer Nut-Flansch



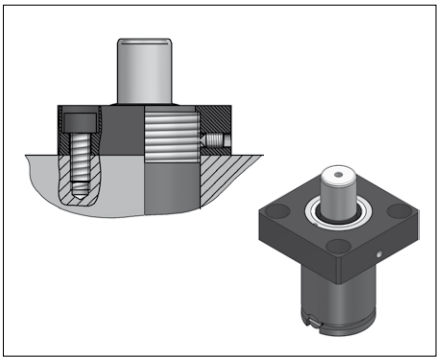
Lower square groove flange

Stütz-Flansch



Support mount

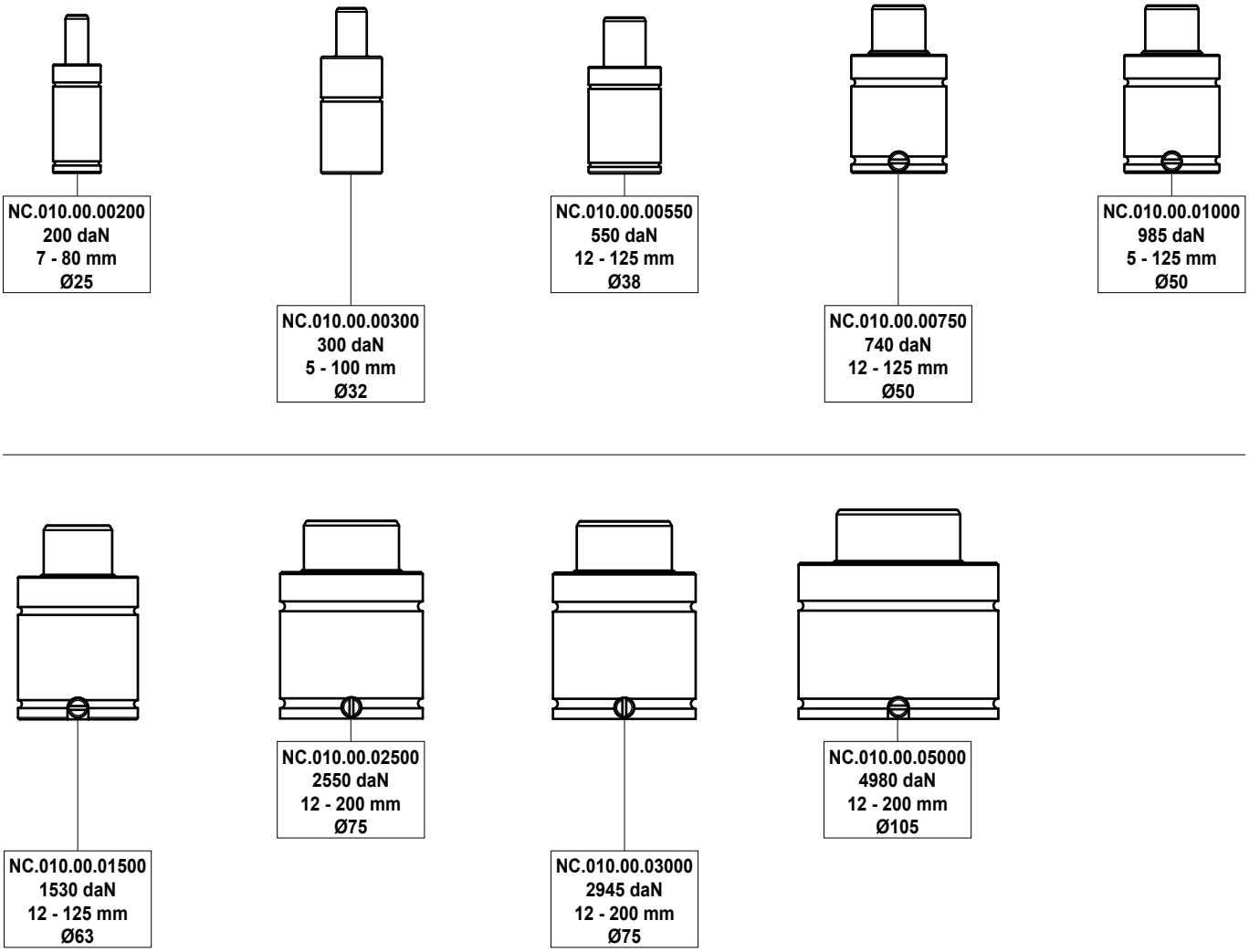
Körpergewinde-Flansch



Threaded body flange

Größenübersicht Serie NC.010.00

Gas spring index NC.010.00 series



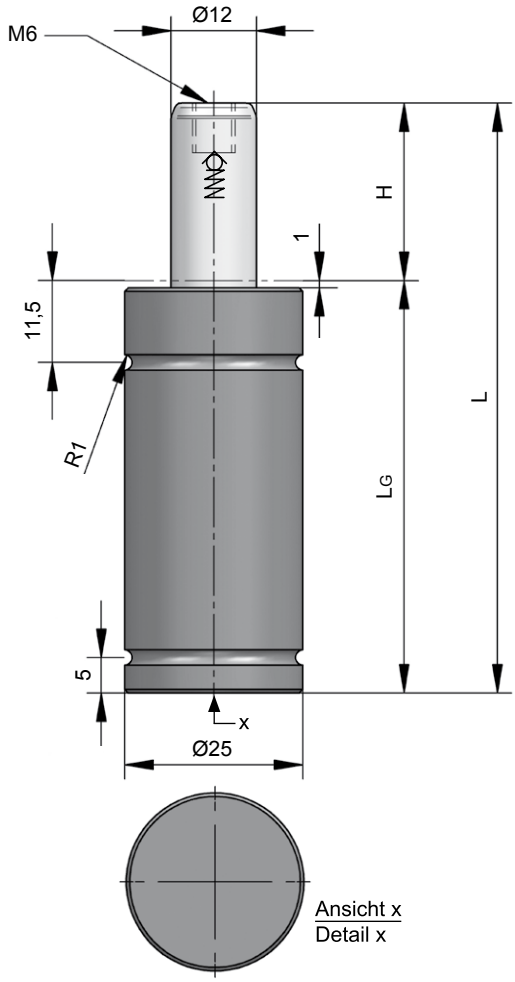
NC.010.00.00200

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

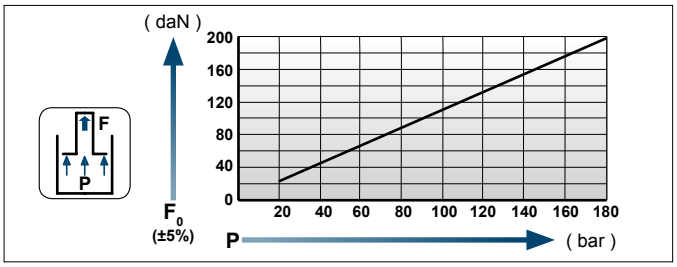
Specifications:

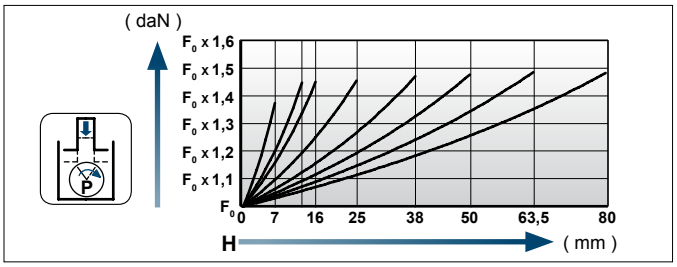
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

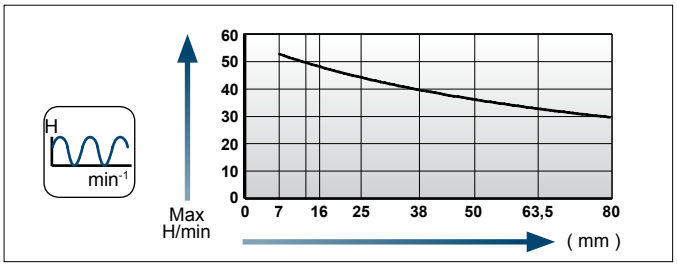


NC.010.00.00200.016

H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
007	47	40	200	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	58,4	45,7	200	
016	65	49	200	
025	83	58	200	
038	109	71	200	
050	133	83	200	
063,5	160	96,5	200	
080	193	113	200	



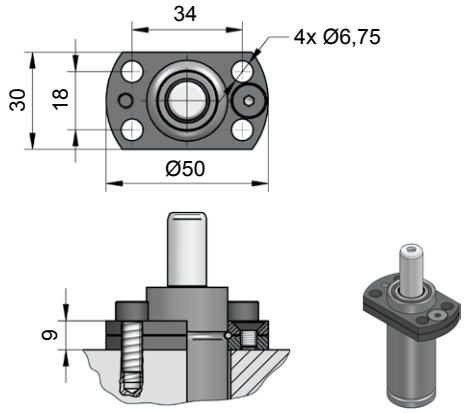




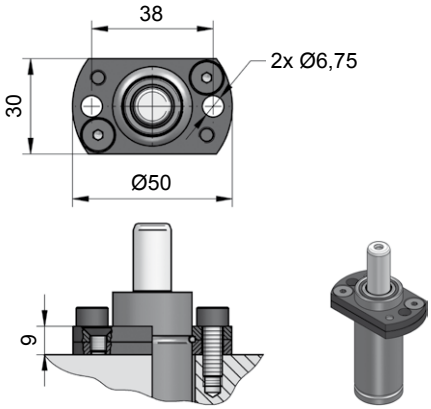
Einbaubeispiele / Flange mounting options

[NC]

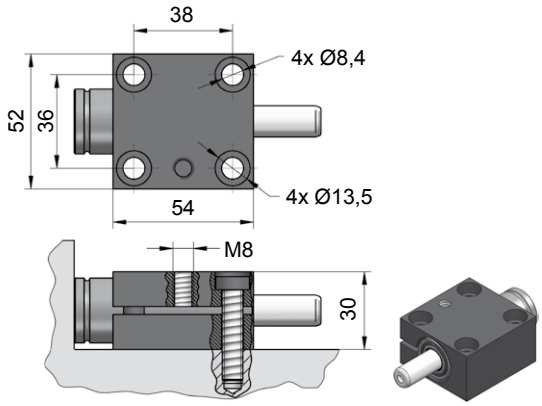
Flansche für / Flanges for **NC.010.00.00200**



NC.88.00.025.0144

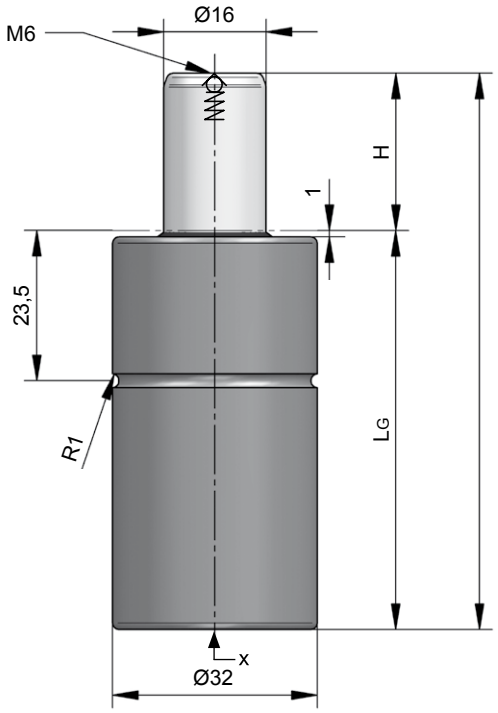


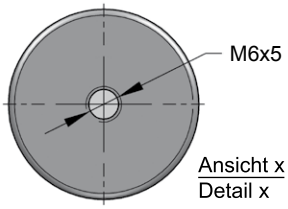
NC.88.00.025.0149



NC.88.00.025.0402

NC.010.00.00300





Technische Daten:

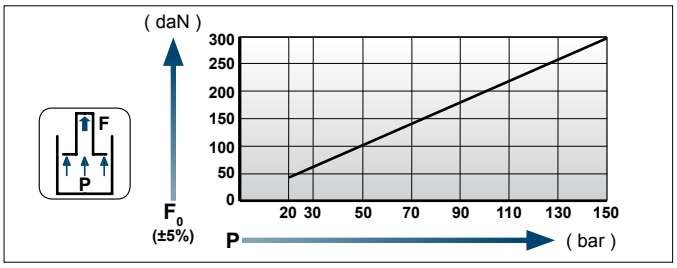
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

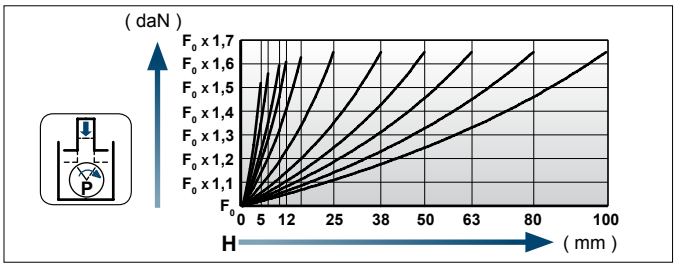
Specifications:

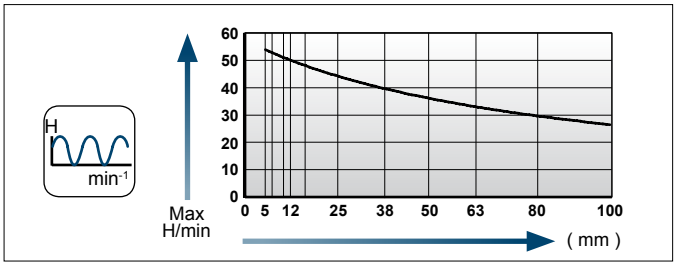
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.010.00.00300.016

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
005	47	42	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
007	51	44	300	
010	57	47	300	
012	61	49	300	
016	69	53	300	
025	87	62	300	
038	113	75	300	
050	137	87	300	
063	163	100	300	
080	197	117	300	
100	237	137	300	

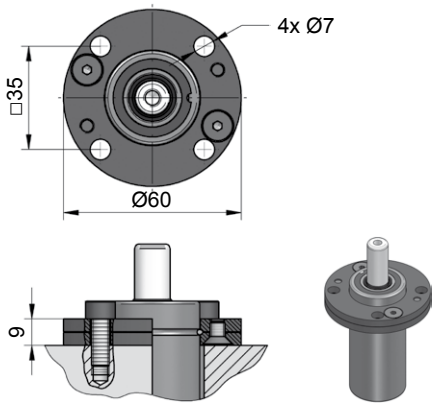




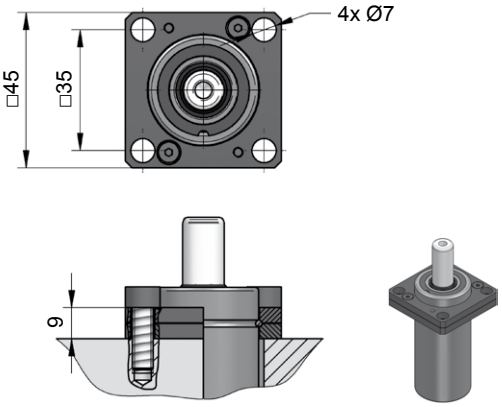


Einbaubeispiele / Flange mounting options

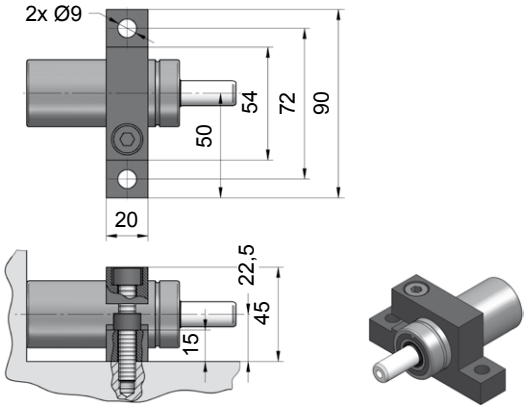
Flansche für / Flanges for **NC.010.00.00300**



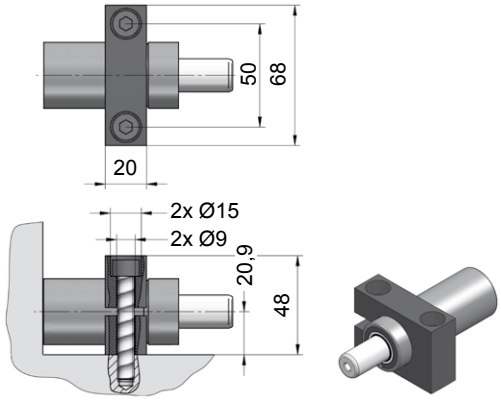
NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0402



NC.88.00.032.0467

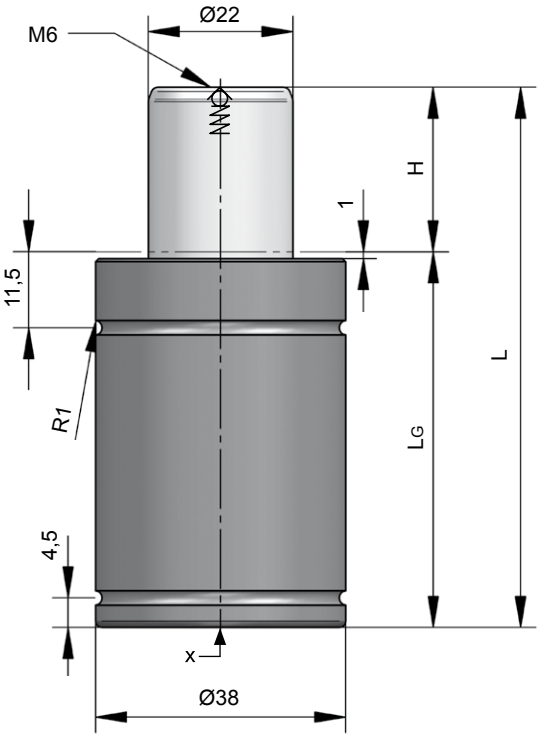
NC.010.00.00550

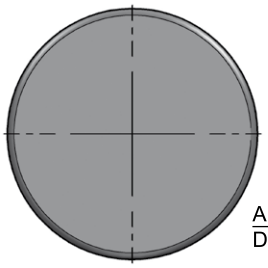
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

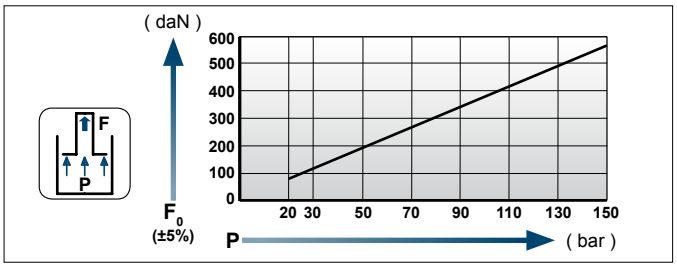


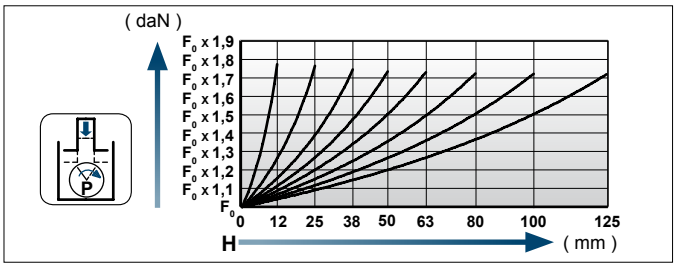


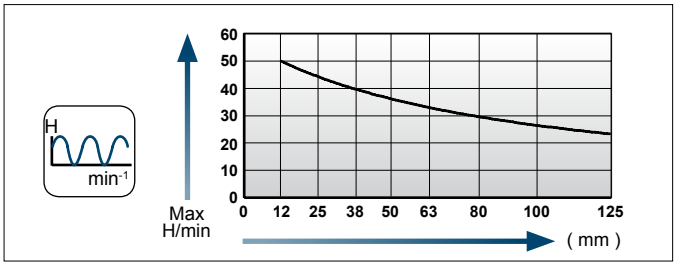
Ansicht x
Detail x

NC.010.00.00550.025

H Hub / Stroke	L ±0,25	LG	Kraft / Force (145 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	56	44	550	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	82	57	550	
038	108	70	550	
050	132	82	550	
063	158	95	550	
080	192	112	550	
100	232	132	550	
125	282	157	550	

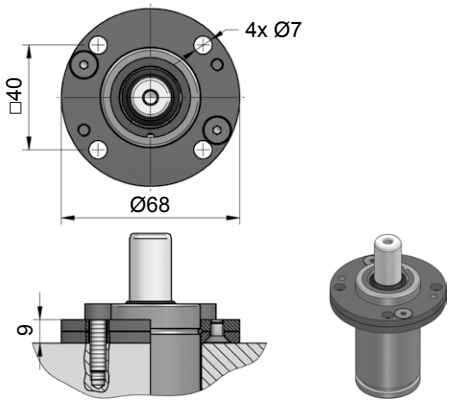




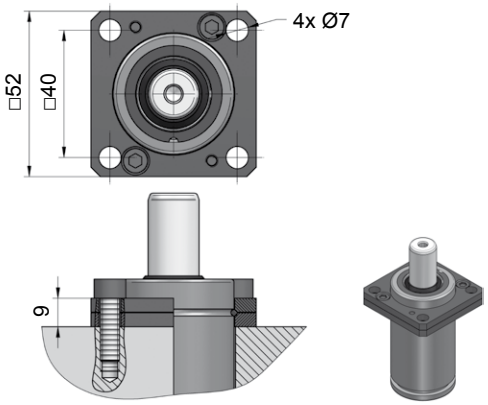


Einbaubeispiele / Flange mounting options

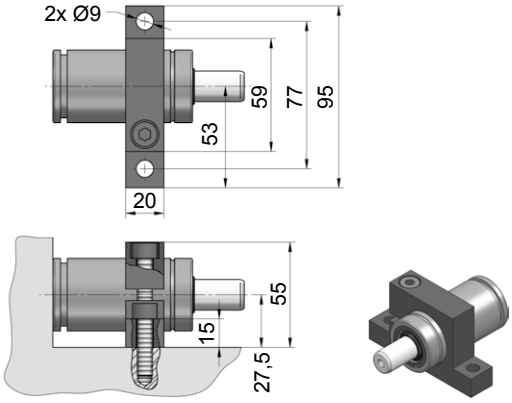
Flansche für / Flanges for **NC.010.00.00550**



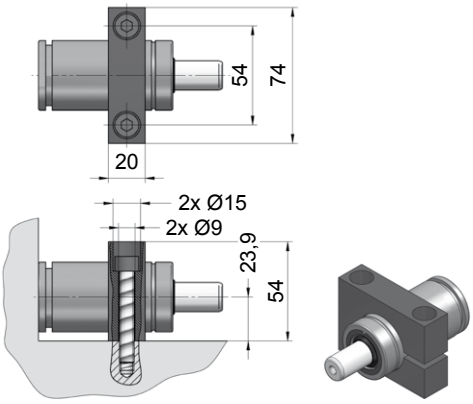
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0402



NC.88.00.038.0467

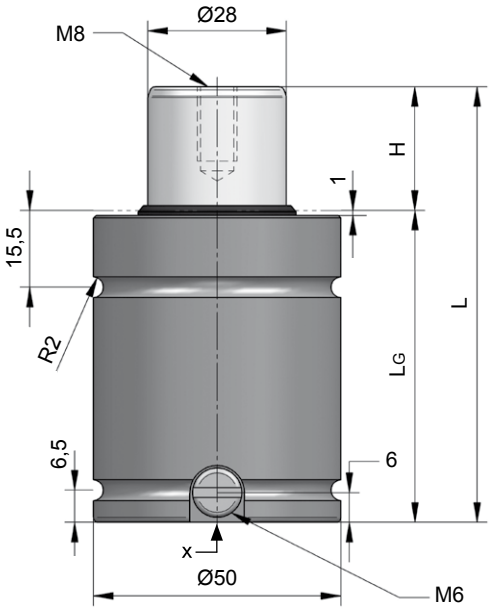
NC.010.00.00750

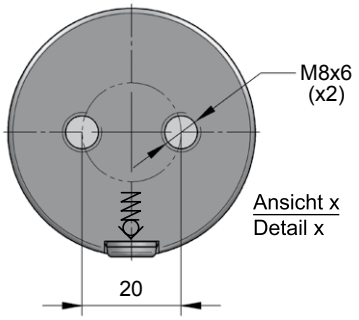
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

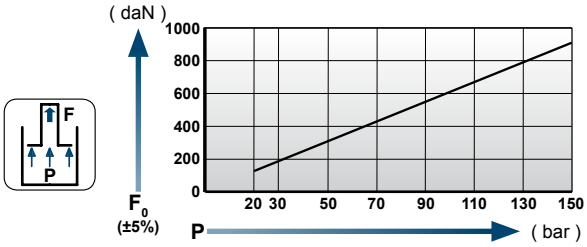
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

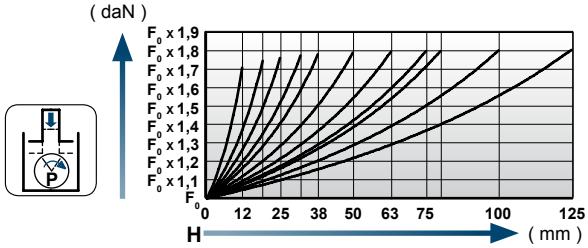


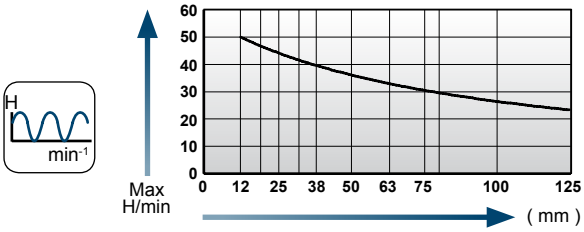


NC.010.00.00750.080

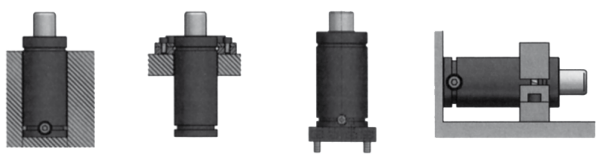
H Hub / Stroke	L ±0,25	LG	Kraft / Force (120 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	62	50	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	76	57	740	
025	88	63	740	
032	102	70	740	
038	114	76	740	
050	138	88	740	
063	164	101	740	
075	188	113	740	
080	198	118	740	
100	238	138	740	
125	288	163	740	



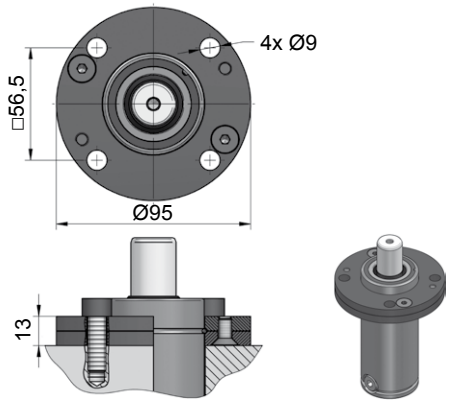




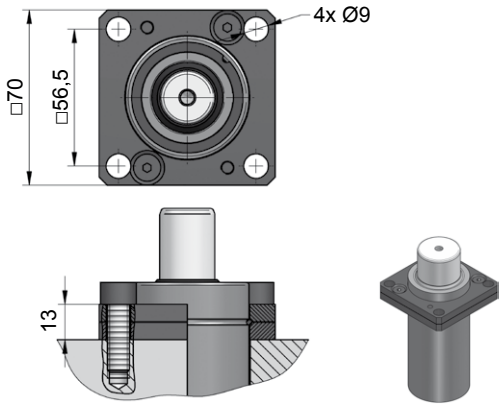
Einbaubeispiele / Flange mounting options



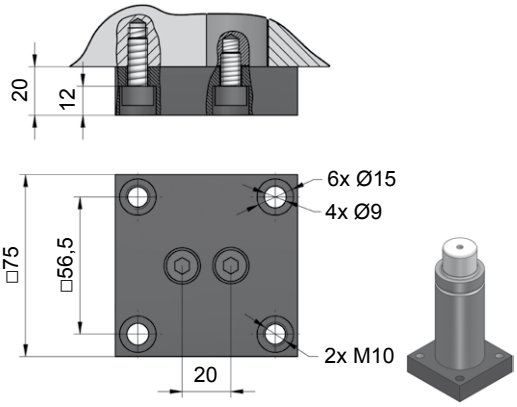
Flansche für / Flanges for **NC.010.00.00750**



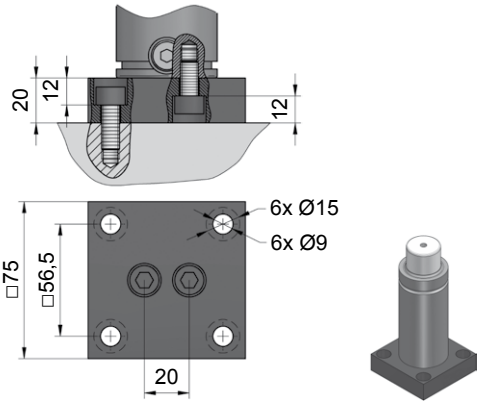
NC.88.00.050.0114



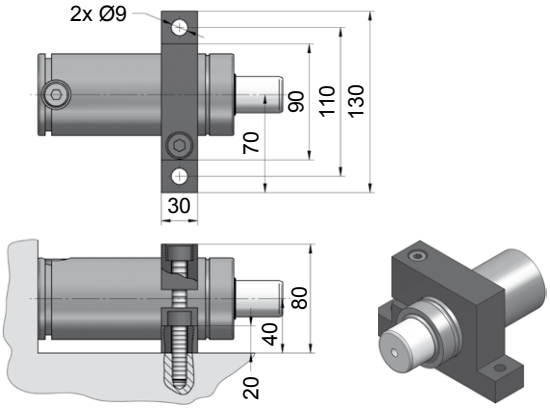
NC.88.00.050.0134



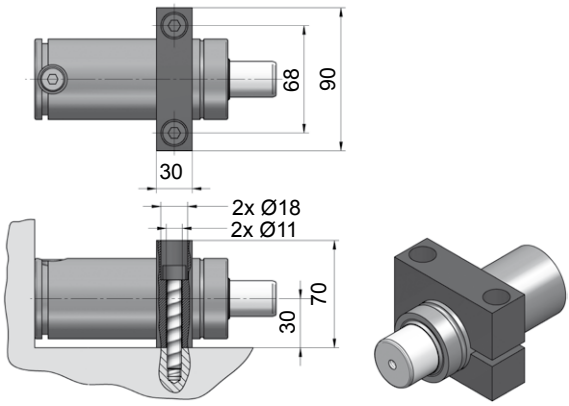
NC.88.00.050.0236



NC.88.00.050.0241



NC.88.00.050.0402



NC.88.00.050.0467

[NC]

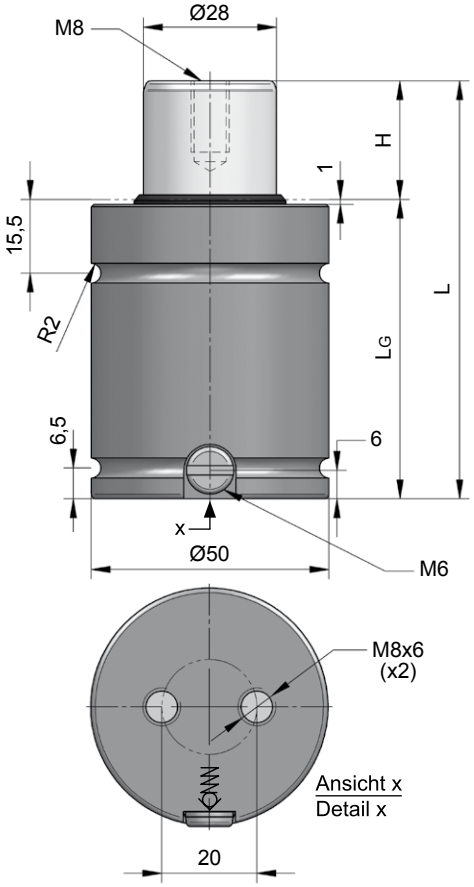
NC.010.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

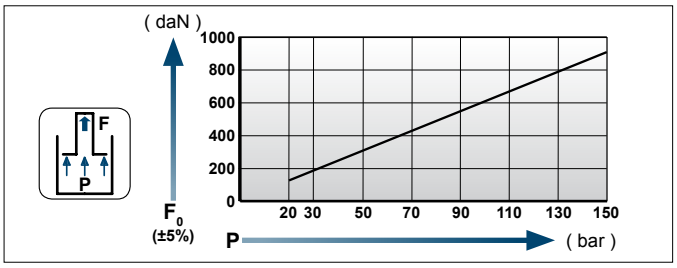
Specifications:

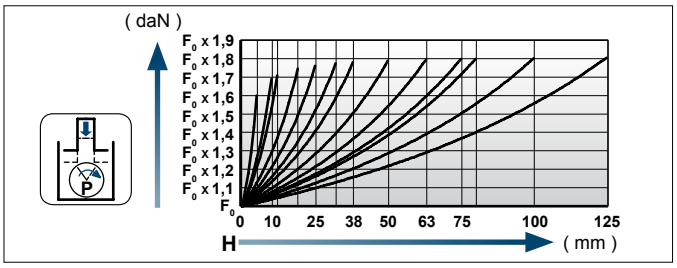
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

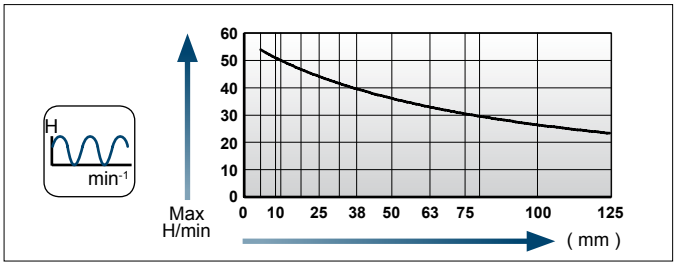


NC.010.00.
01000.038

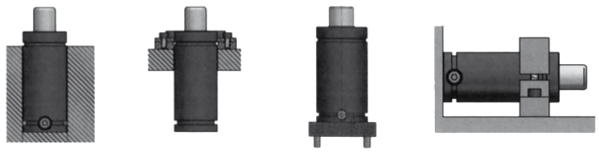
H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	 Ende / Final [daN]
005	48	43	985	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	58	48	985	
012	62	50	985	
019	76	57	985	
025	88	63	985	
032	102	70	985	
038	114	76	985	
050	138	88	985	
063	164	101	985	
075	188	113	985	
080	198	118	985	
100	238	138	985	
125	288	163	985	





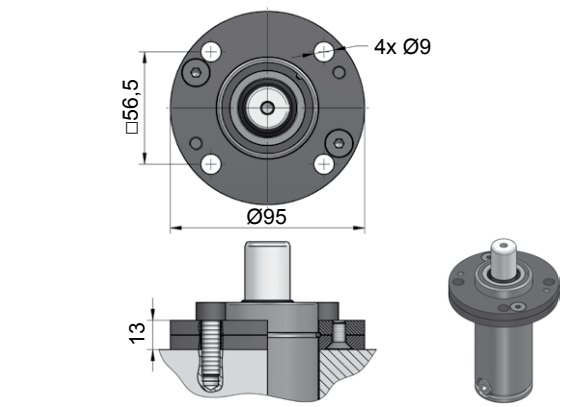


Einbaubeispiele / Flange mounting options

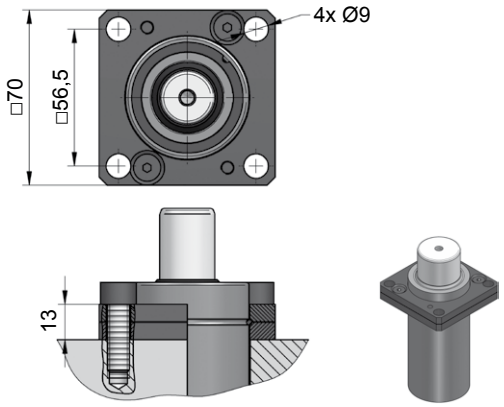


[NC]

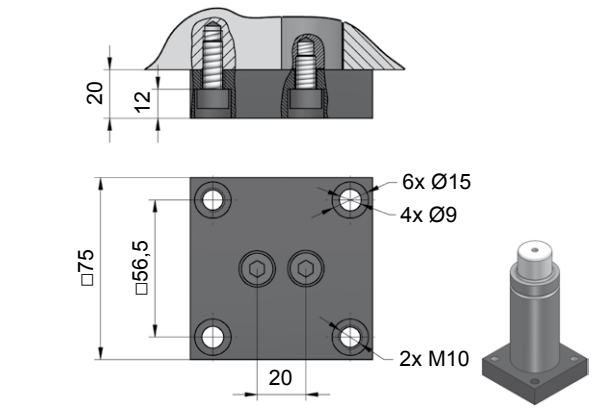
Flansche für / Flanges for **NC.010.00.01000**



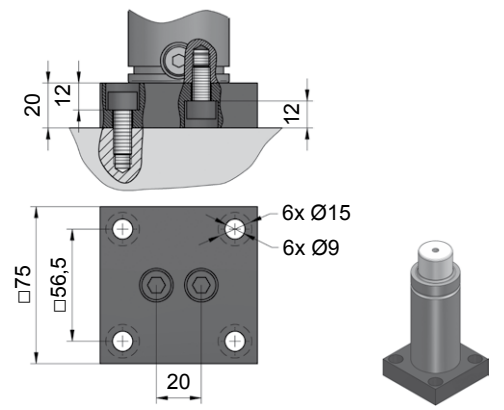
NC.88.00.050.0114



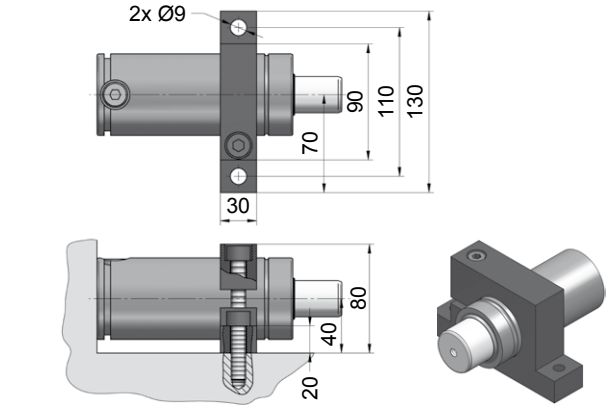
NC.88.00.050.0134



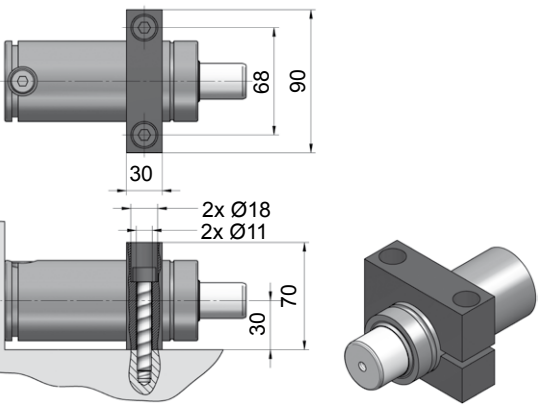
NC.88.00.050.0236



NC.88.00.050.0241



NC.88.00.050.0402



NC.88.00.050.0467

[NC]

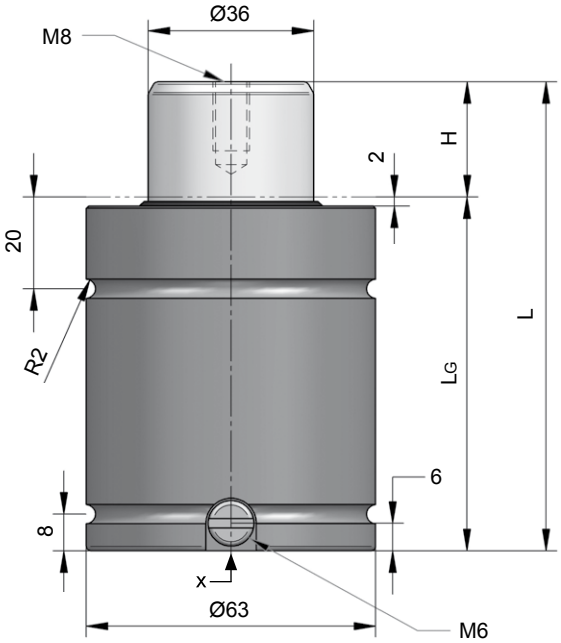
NC.010.00.01500

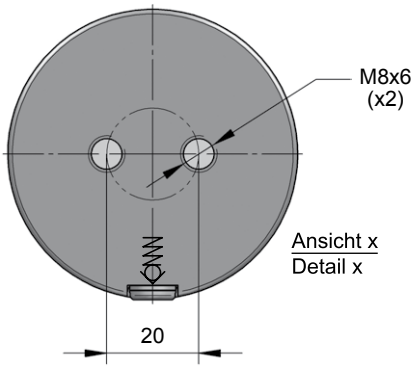
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

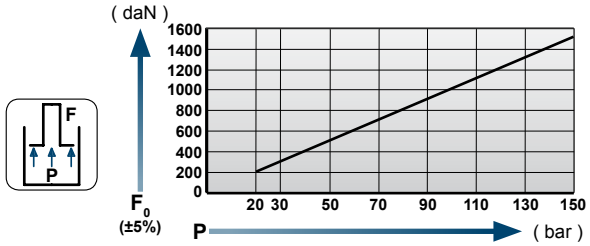
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

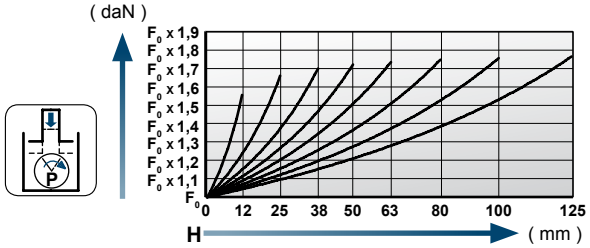


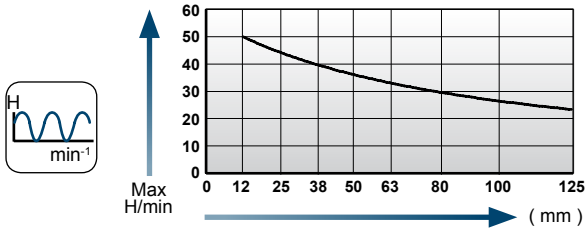


NC.010.00.01500.038

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	76	64	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	102	77	1530	
038	128	90	1530	
050	152	102	1530	
063	178	115	1530	
080	212	132	1530	
100	252	152	1530	
125	302	177	1530	

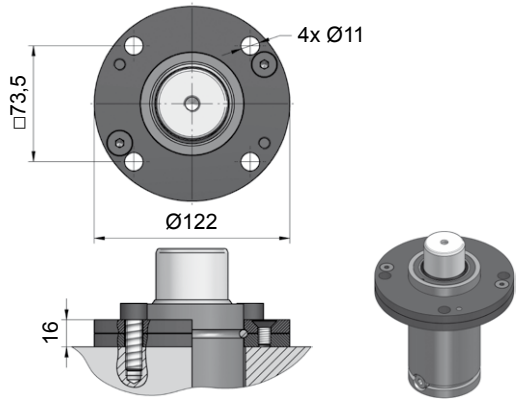




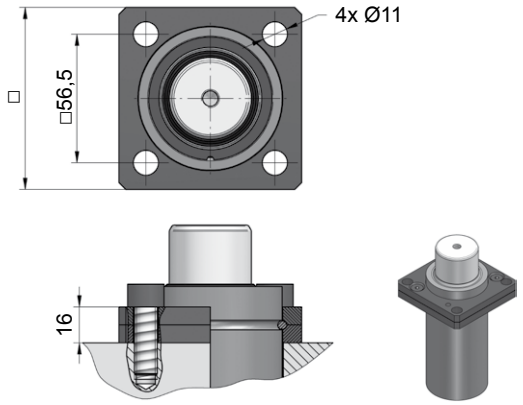


Einbaubeispiele / Flange mounting options

Flansche für / Flanges for **NC.010.00.01500**



NC.88.00.063.0114



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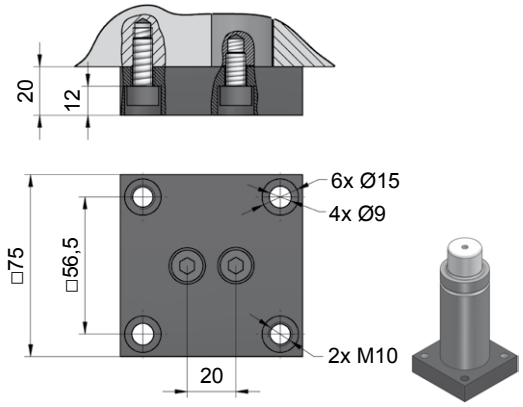

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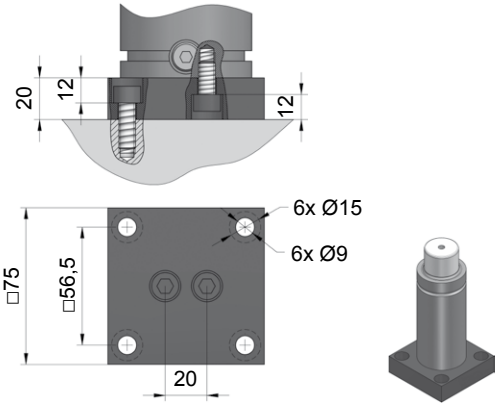

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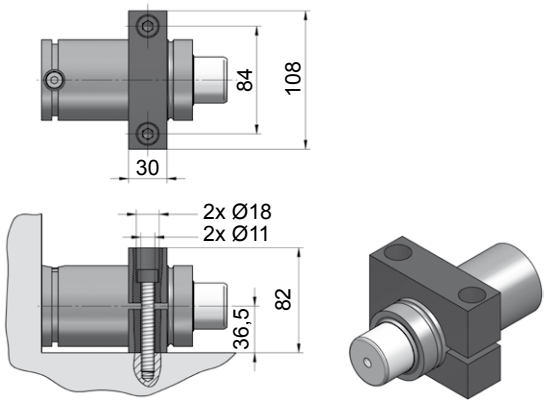


NC.88.00.063.0467

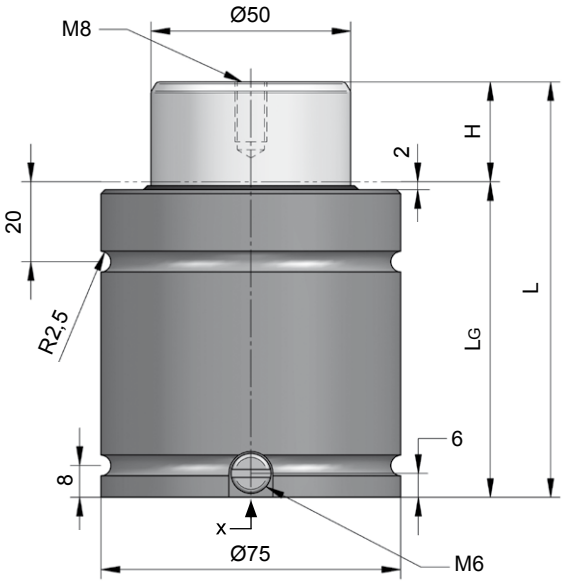
NC.010.00.02500

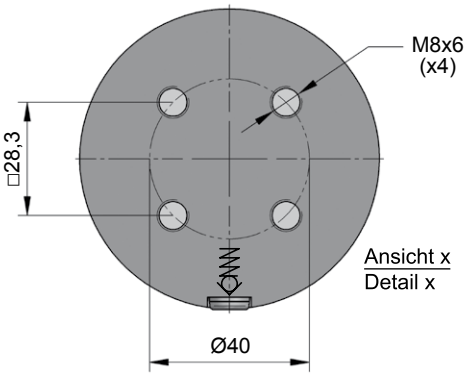
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

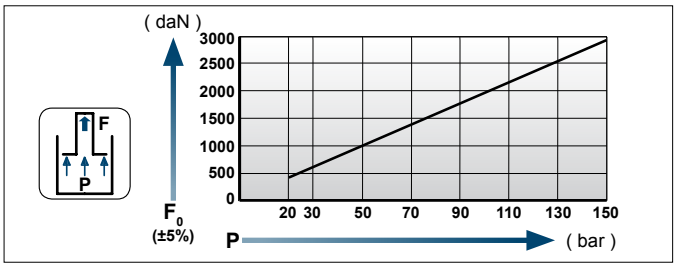
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

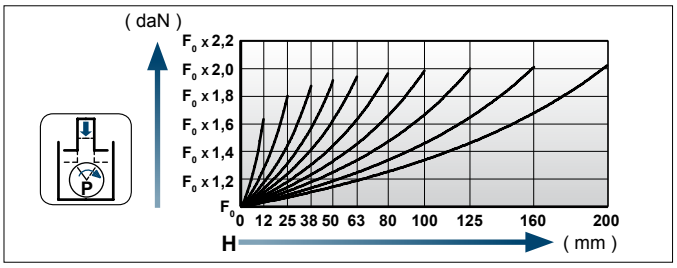


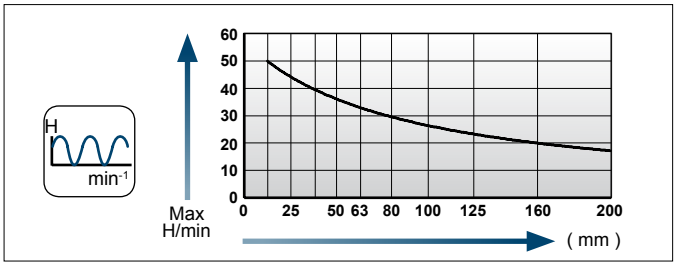


NC.010.00.02500.063

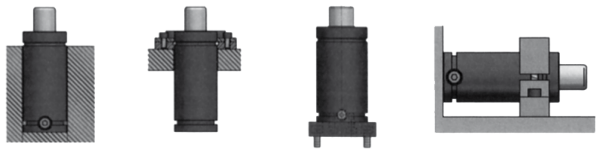
H Hub / Stroke	L ±0,25	LG	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	78	66	2550	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	104	79	2550	
038	130	92	2550	
050	154	104	2550	
063	180	117	2550	
080	214	134	2550	
100	254	154	2550	
125	304	179	2550	
160	374	214	2550	
200	454	254	2550	







Einbaubeispiele / Flange mounting options



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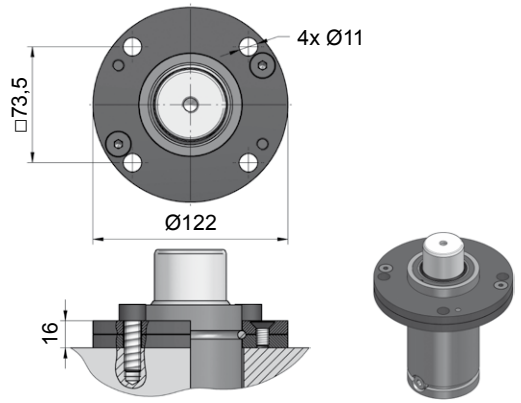
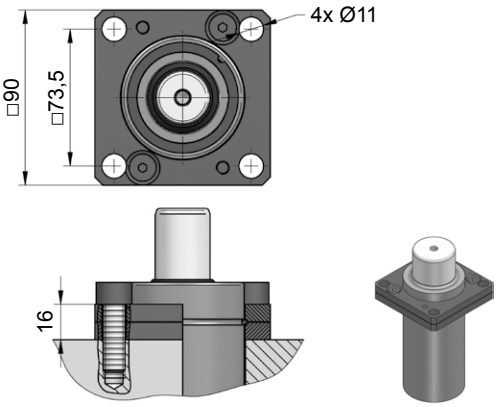
Flansche für / Flanges for **NC.010.00.02500**



NC.88.00.075.0114



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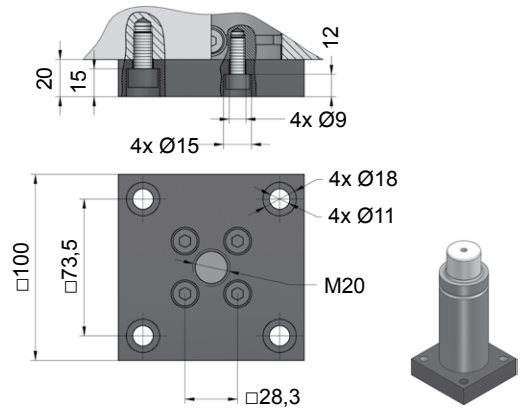

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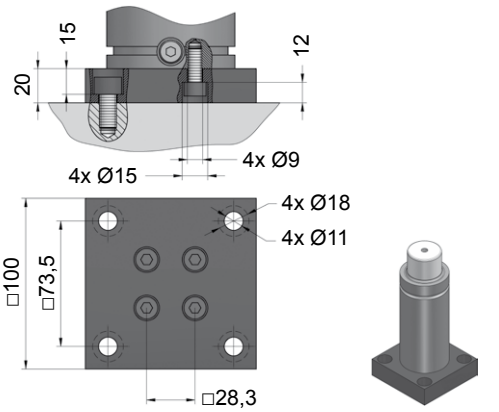
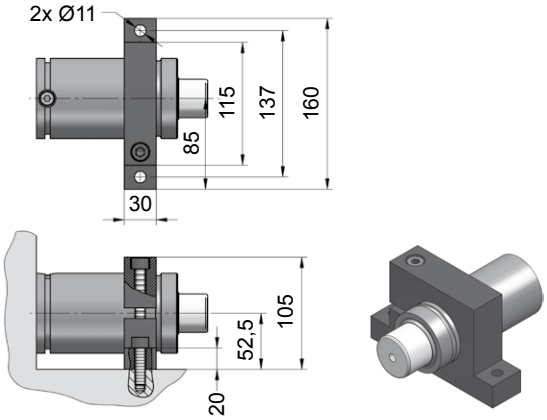
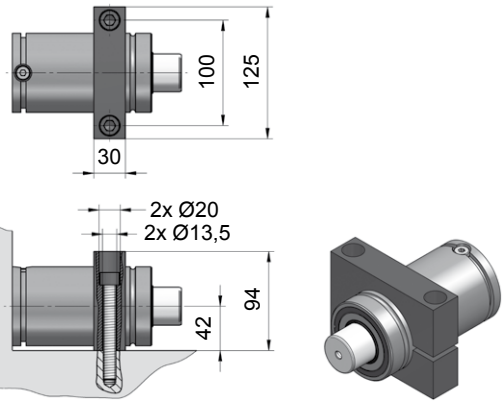


NC.88.00.075.0241



NC.88.00.075.0402



NC.88.00.075.0467

[NC]

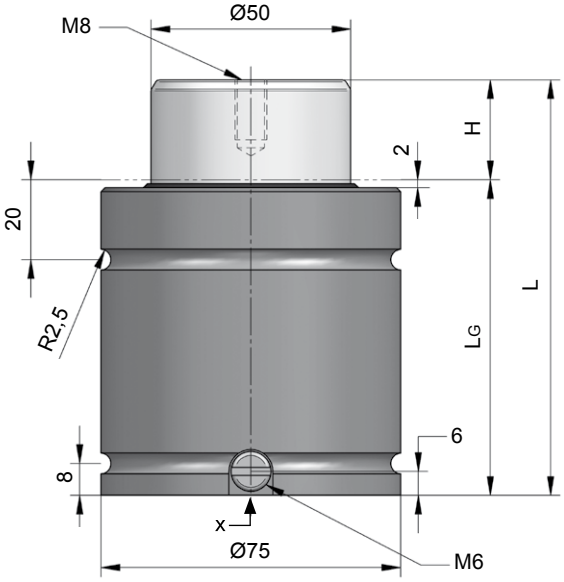
NC.010.00.03000

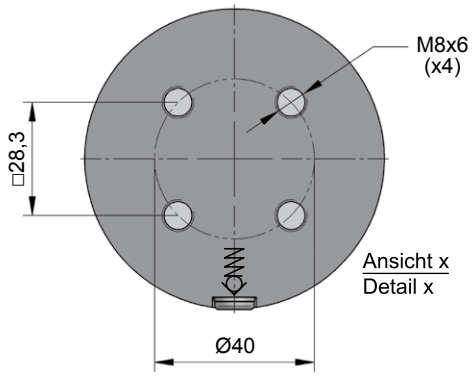
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

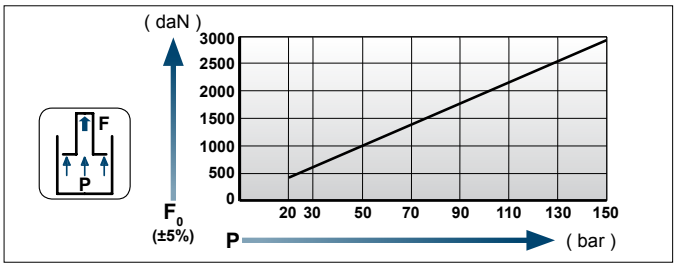
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

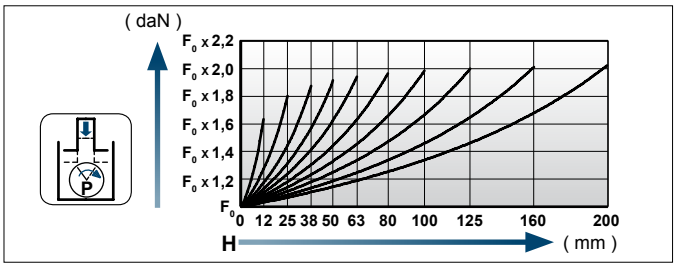


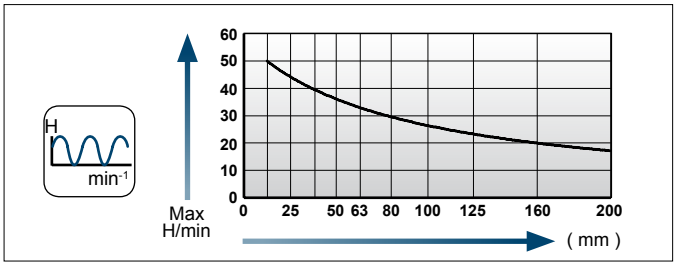


NC.010.00.03000.025

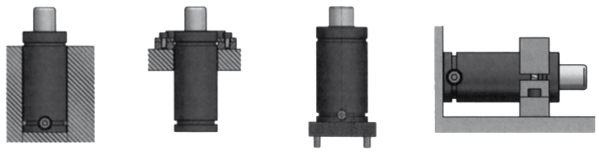
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	78	66	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	104	79	2945	
038	130	92	2945	
050	154	104	2945	
063	180	117	2945	
080	214	134	2945	
100	254	154	2945	
125	304	179	2945	
160	374	214	2945	
200	454	254	2945	





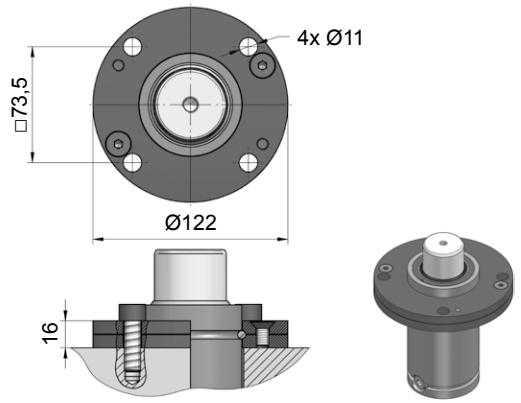


Einbaubeispiele / Flange mounting options

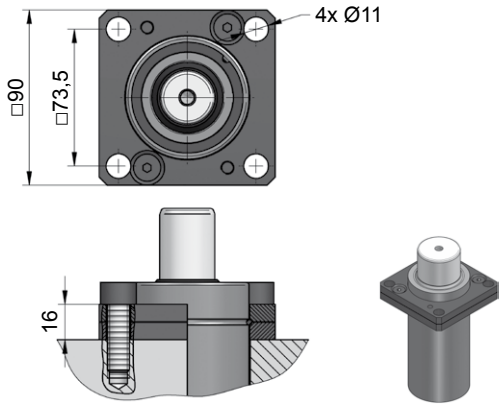


[NC]

Flansche für / Flanges for **NC.010.00.03000**



NC.88.00.075.0114



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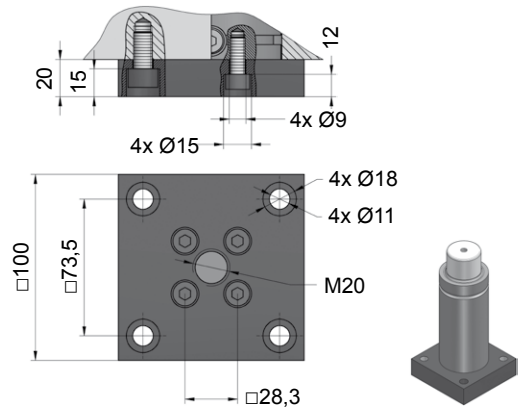

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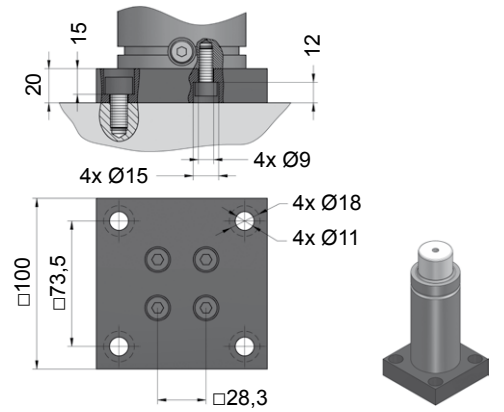
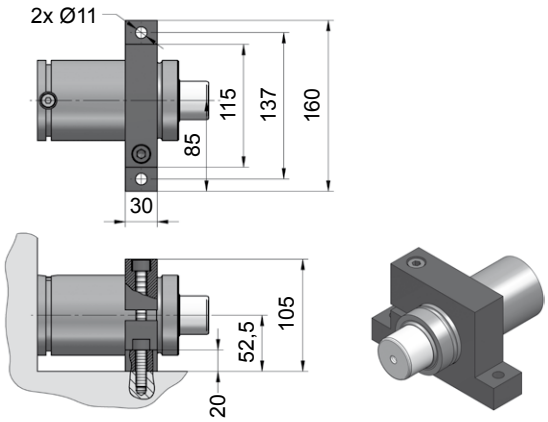


NC.88.00.075.0241



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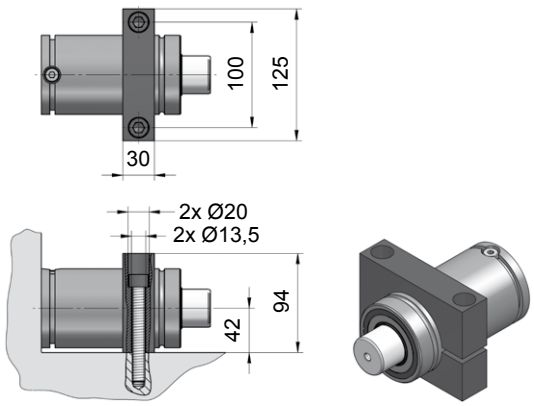


NC.88.00.075.0467

[NC]

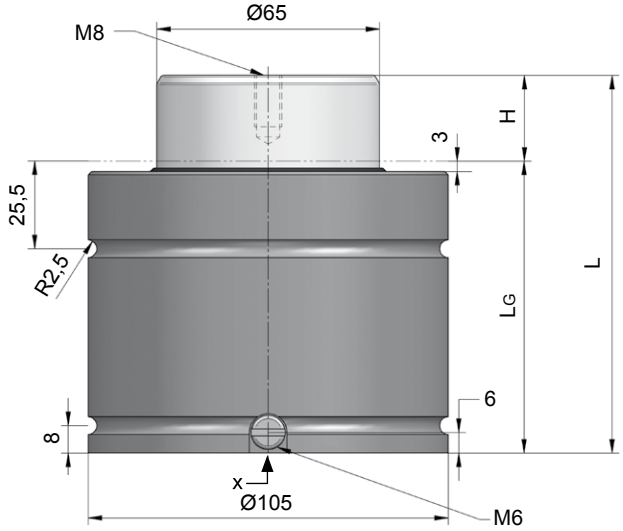
NC.010.00.05000

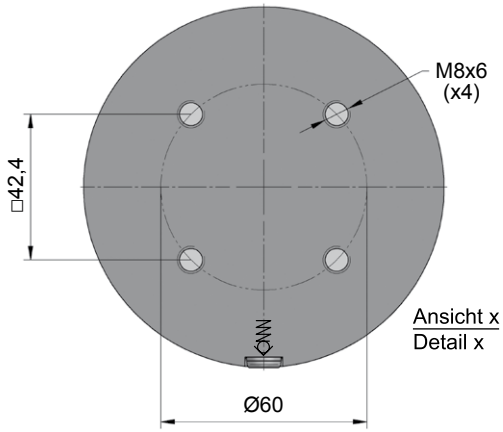
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

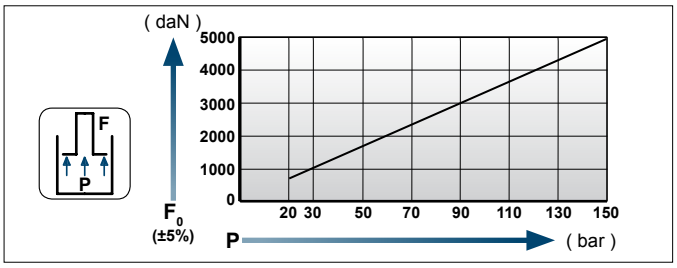
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

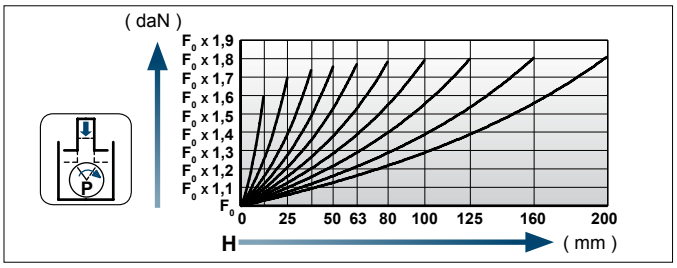


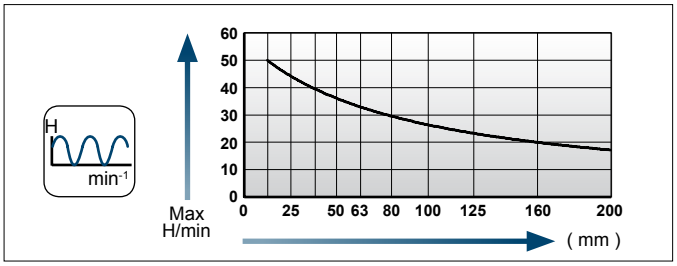


NC.010.00.05000.012

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	4980	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	4980	
038	136	98	4980	
050	160	110	4980	
063	186	123	4980	
080	220	140	4980	
100	260	160	4980	
125	310	185	4980	
160	380	220	4980	
200	460	260	4980	

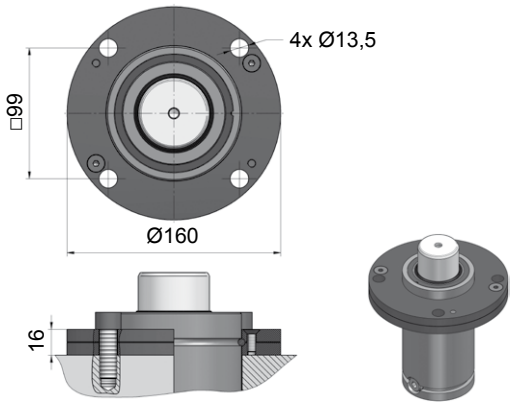




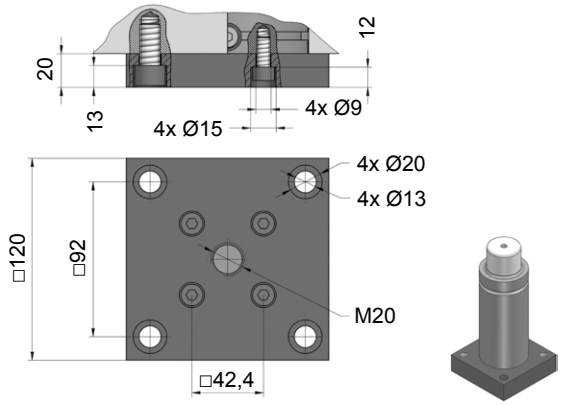


Einbaubeispiele / Flange mounting options

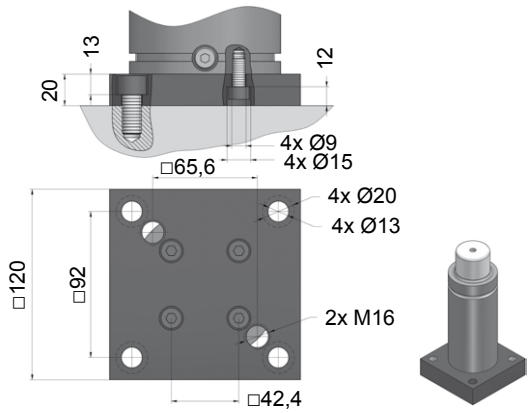
Flansche für / Flanges for **NC.010.00.05000**



NC.88.00.105.0114



NC.88.00.105.0236



NC.88.00.105.0241

Technische Information
Serie NC.010.18

Die Gasdruckfedern **NC.010.18** gleichen in Bauhöhe und Kraft der Reihe **NC.010.00**, verfügen jedoch über ein G1/8“-Anschlussgewinde in einer seitlichen Ausbuchtung.
Gasdruckfedern **NC.010.18** können nur in Verbindung mit Hochdruckschläuchen oder dem Adapter **NCI.00.12** eingesetzt werden.

Hinweis:
Folgende Anschlussstücke können ebenfalls zur Verschlauchung eingesetzt werden
- **HSNF 1000-4-G1/8“**
- **HSNF 2000-4-G1/8“**
- **HSNF 3000-4-G1/8“**
- **HSNF 3300-4-G1/8“**
- **HSNF 4500-4-G1/8“**

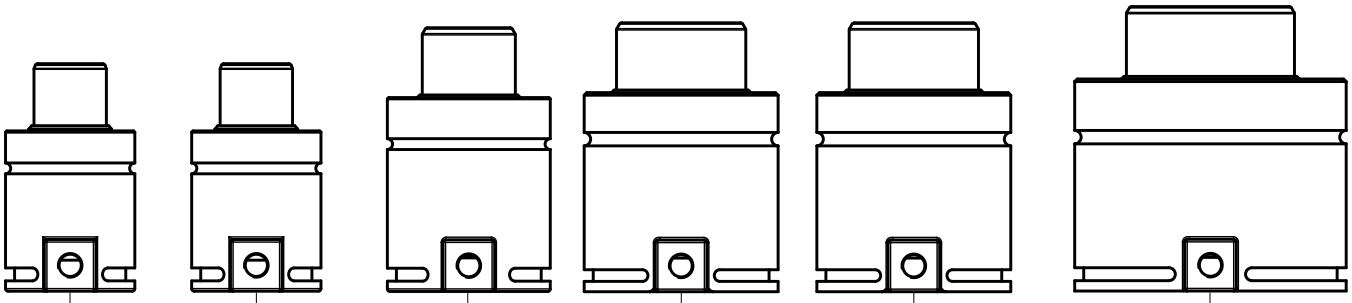
Technical information
NC.010.18 series

The **NC.010.18**-gas springs are - regarding height and force - similar to the **NC.010.00**-series, they additionally have a G1/8“ - connection-thread on one side.
Gas springs **NC.010.18** can only be used in connection with high pressure hoses or adapter **NCI.00.12**.

Note:
In case of connecting the springs with hoses the following adapters may be used as well
- **HSNF 1000-4-G1/8“**
- **HSNF 2000-4-G1/8“**
- **HSNF 3000-4-G1/8“**
- **HSNF 3300-4-G1/8“**
- **HSNF 4500-4-G1/8“**

Größenübersicht Serie NC.010.18

Gas spring index NC.010.18 series



NC.010.18.00750	NC.010.18.01000	NC.010.18.01500	NC.010.18.02500	NC.010.18.03000	NC.010.18.05000
740 daN	985 daN	1530 daN	2550 daN	2945 daN	4980 daN
12 - 125 mm	12 - 125 mm	12 - 125 mm	12 - 200 mm	12 - 200 mm	12 - 200 mm
Ø50	Ø50	Ø63	Ø75	Ø75	Ø105

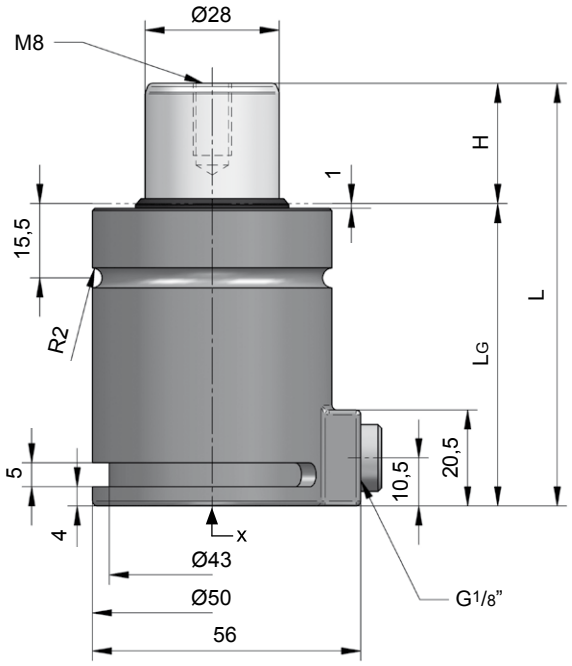
NC.010.18.00750

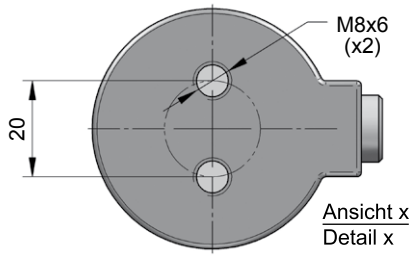
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

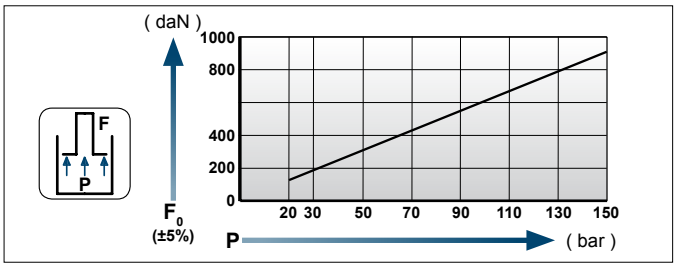
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

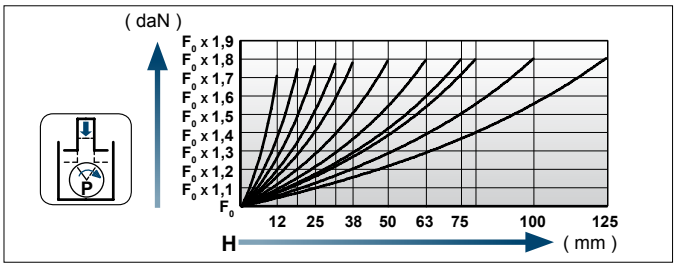


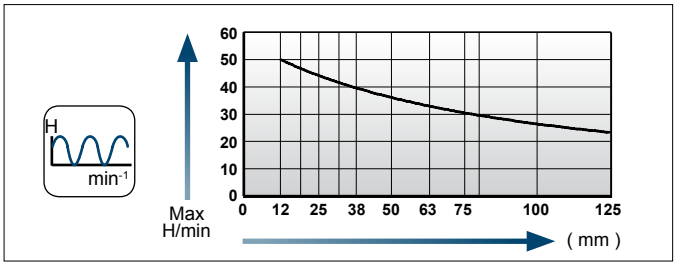


NC.010.18.00750.080

H Hub / Stroke	L ±0,25	LG	Kraft / Force (120 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	62	50	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	76	57	740	
025	88	63	740	
032	102	70	740	
038	114	76	740	
050	138	88	740	
063	164	101	740	
075	188	113	740	
080	198	118	740	
100	238	138	740	
125	288	163	740	

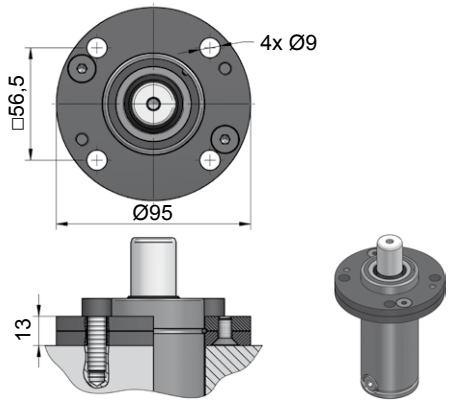




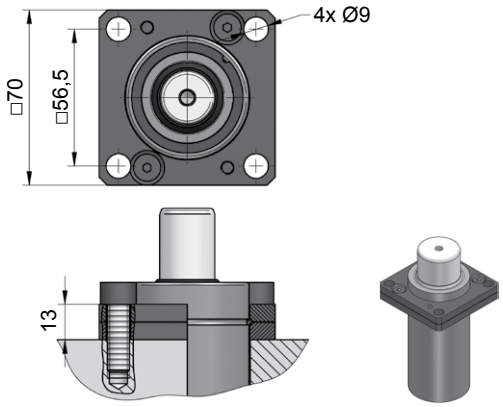


Einbaubeispiele / Flange mounting options

Flansche für / Flanges for **NC.010.18.00750**



NC.88.00.050.0114



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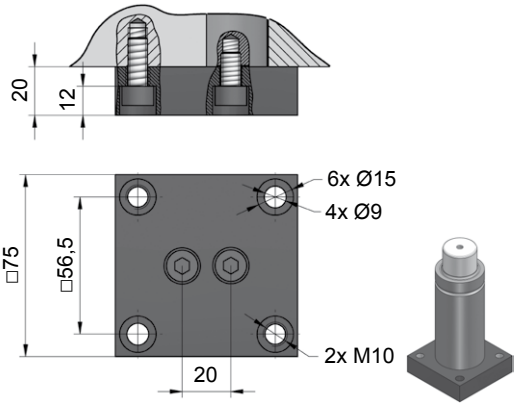

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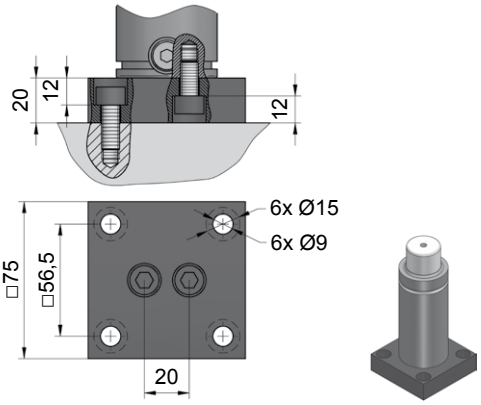

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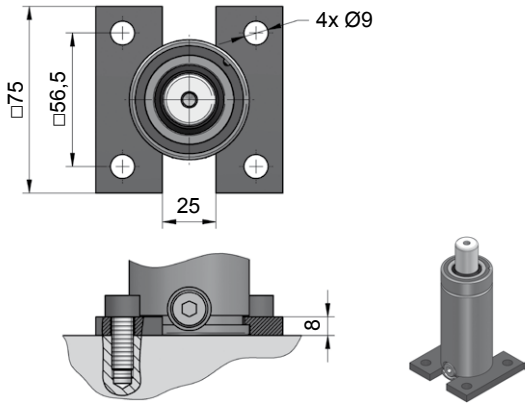
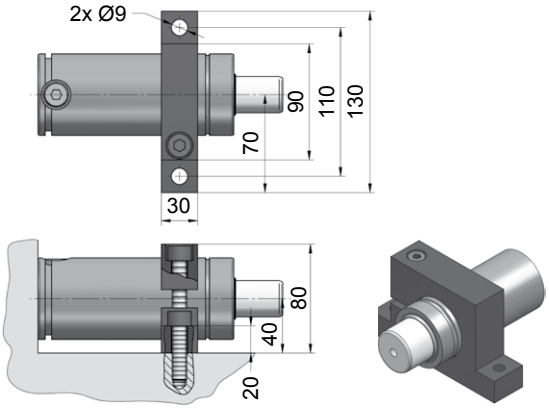
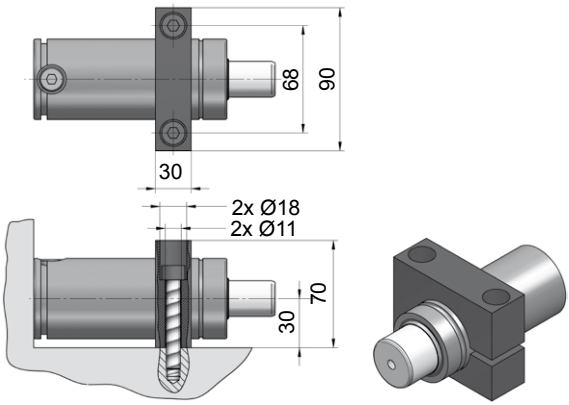


NC.88.00.050.0355



NC.88.00.050.0402



NC.88.00.050.0467

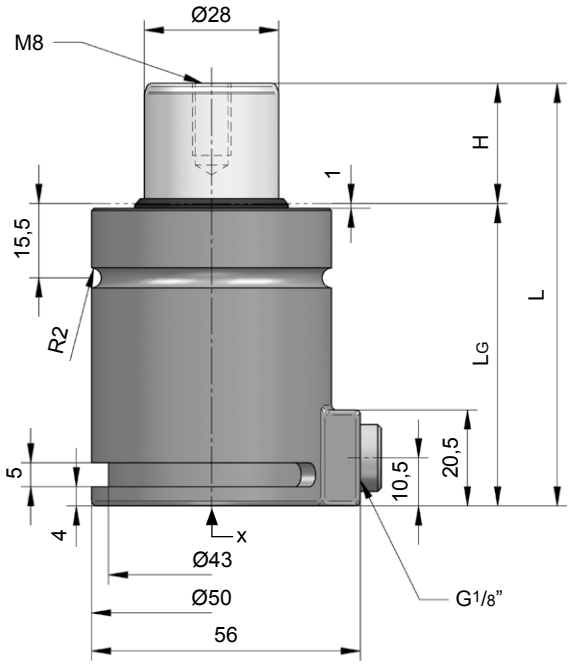
NC.010.18.01000

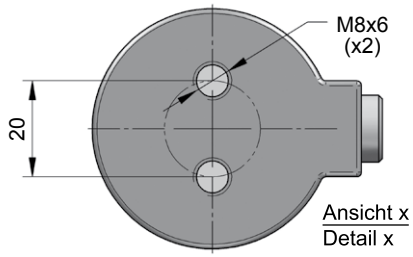
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

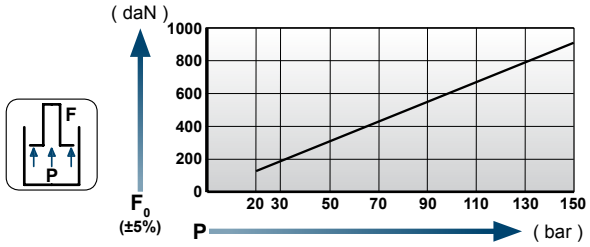
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

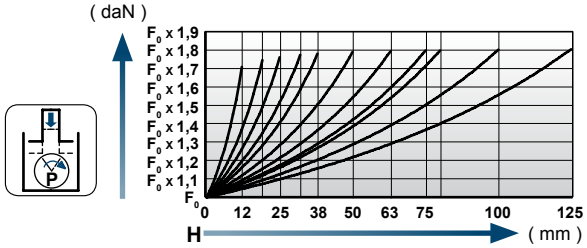


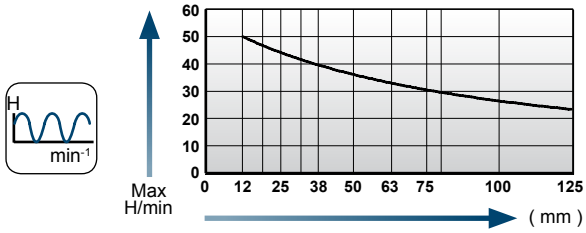


NC.010.18.01000.038

H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	62	50	985	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	76	57	985	
025	88	63	985	
032	102	70	985	
038	114	76	985	
050	138	88	985	
063	164	101	985	
075	188	113	985	
080	198	118	985	
100	238	138	985	
125	288	163	985	



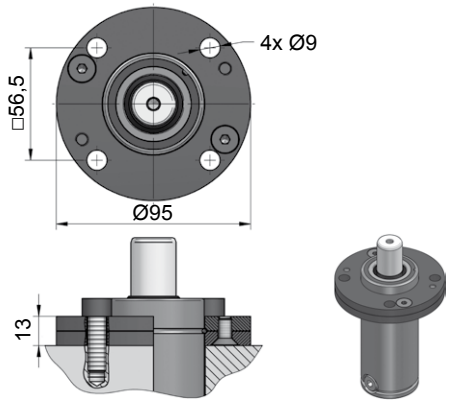




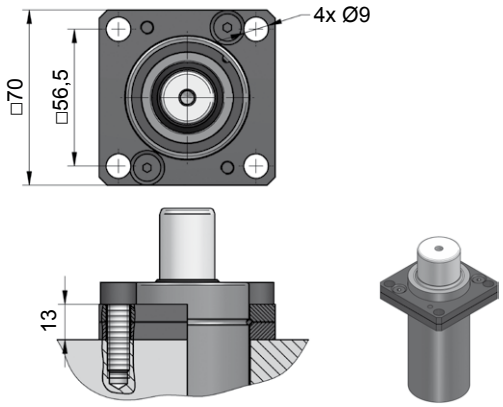
Einbaubeispiele / Flange mounting options

[NC]

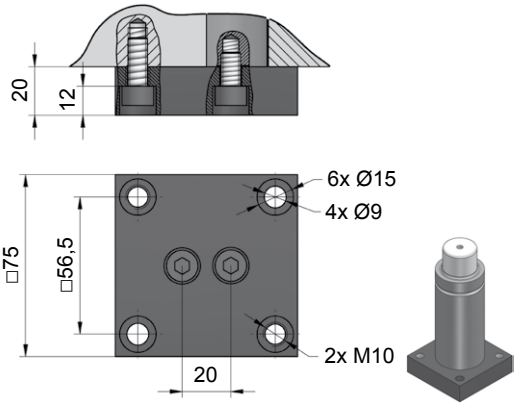
Flansche für / Flanges for **NC.010.18.01000**



NC.88.00.050.0114



NC.88.00.050.0134



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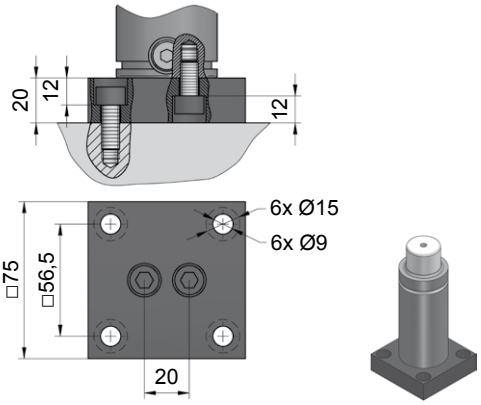
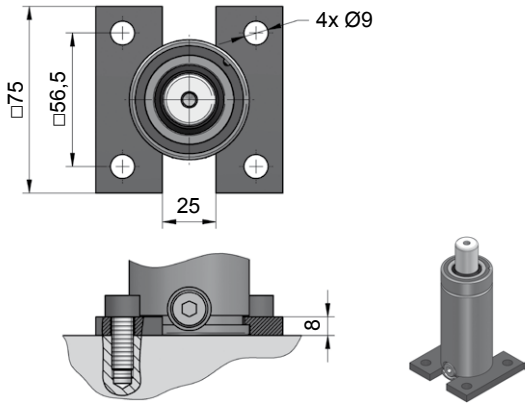


NC.88.00.050.0241



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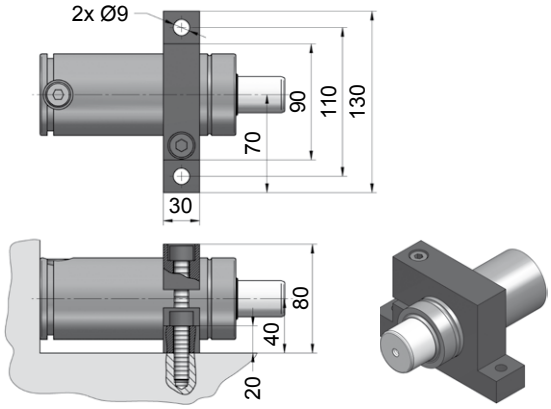
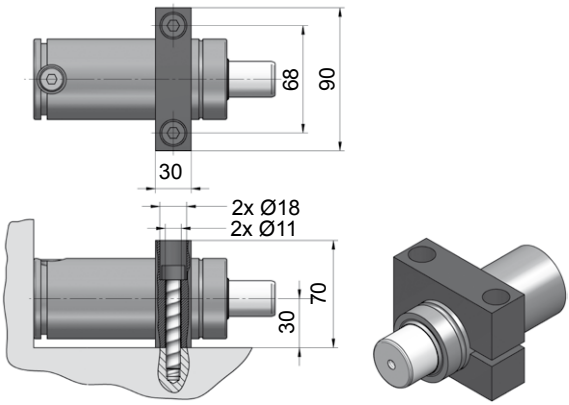


NC.88.00.050.0402



NC.88.00.050.0467

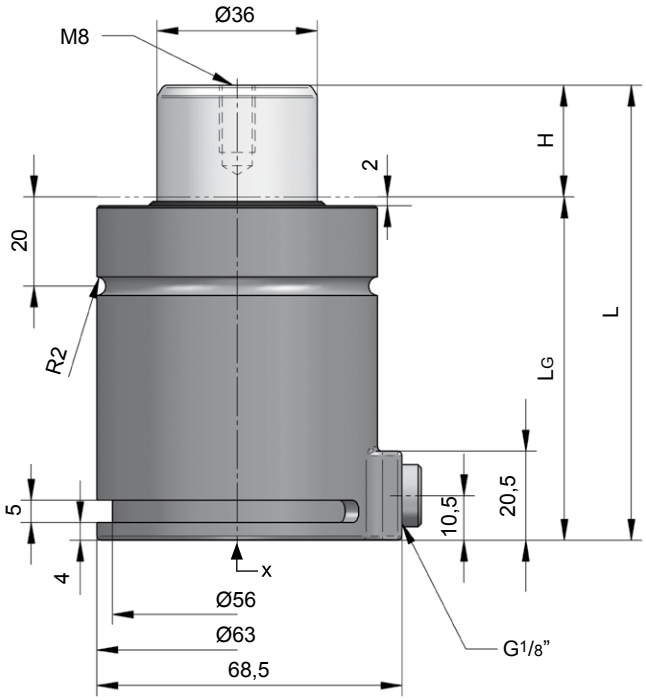
NC.010.18.01500

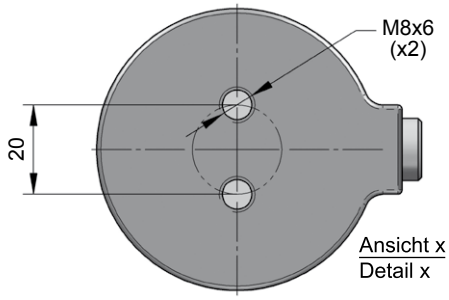
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

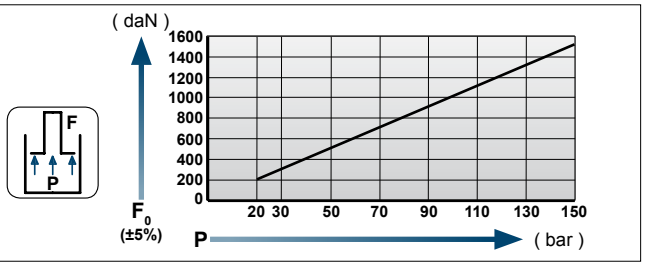
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

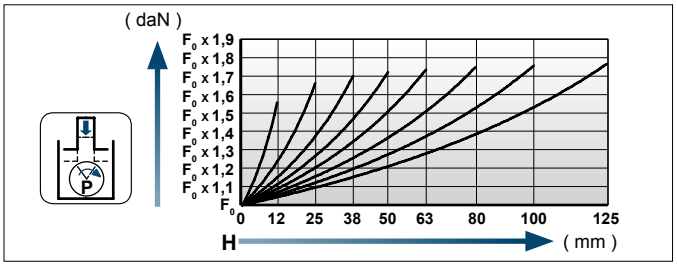


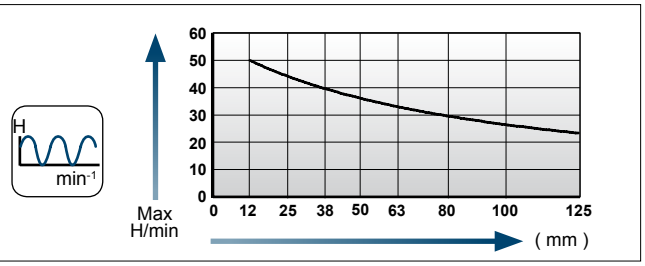


NC.010.18.01500.012

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	76	64	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	102	77	1530	
038	128	90	1530	
050	152	102	1530	
063	178	115	1530	
080	212	132	1530	
100	252	152	1530	
125	302	177	1530	



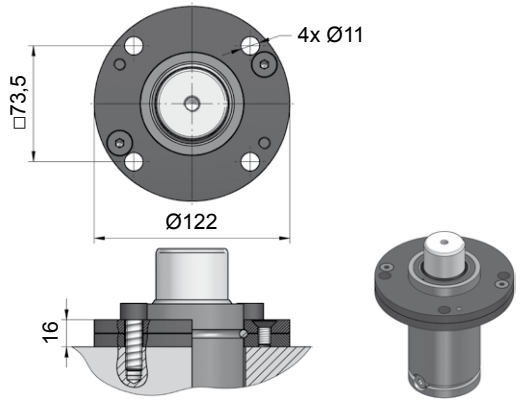




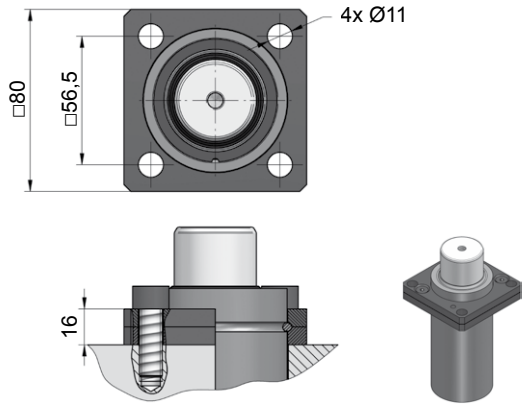
Einbaubeispiele / Flange mounting options

[NC]

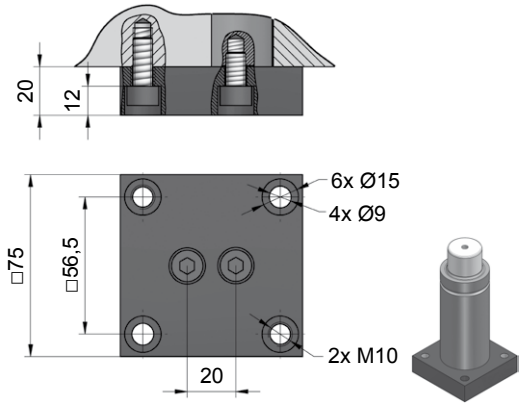
Flansche für / Flanges for **NC.010.18.01500**



NC.88.00.063.0114



NC.88.00.063.0134



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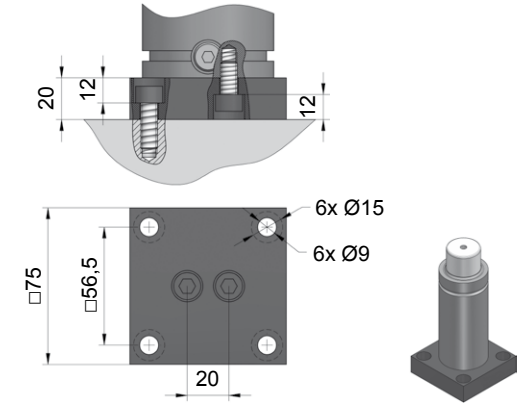
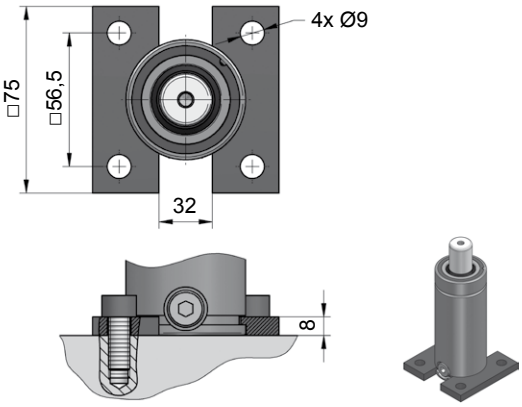
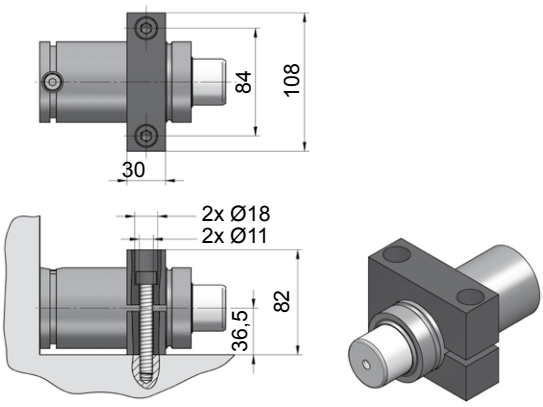


NC.88.00.063.0241



NC.88.00.063.0355



NC.88.00.063.0467

[NC]

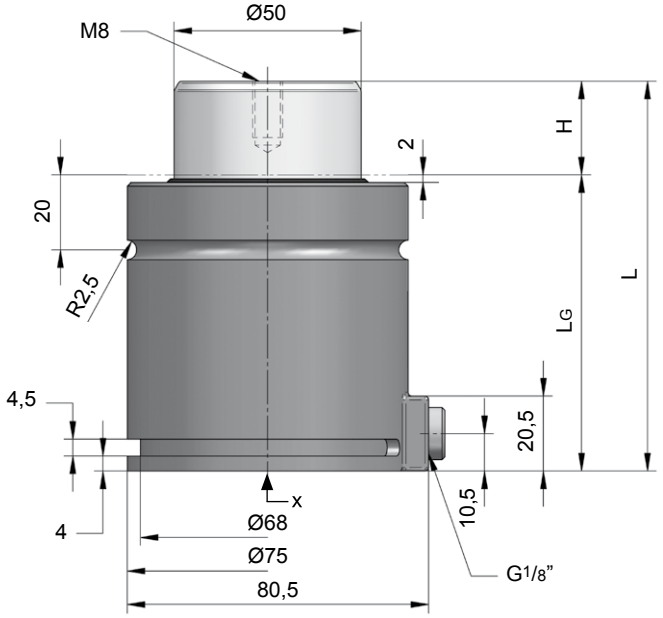
NC.010.18.02500

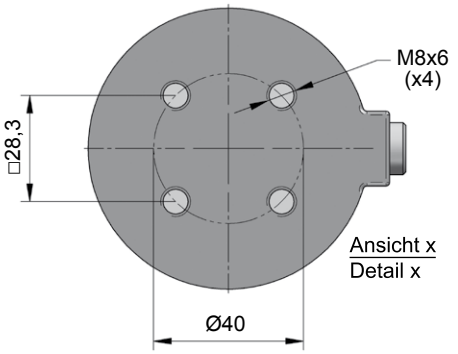
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

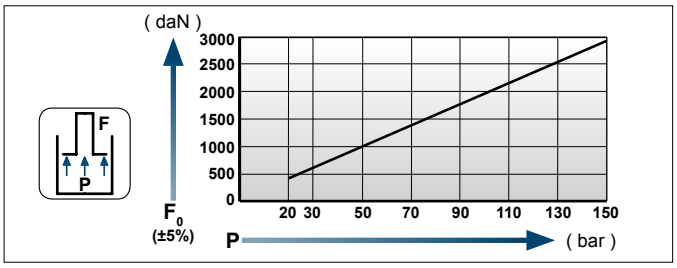
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

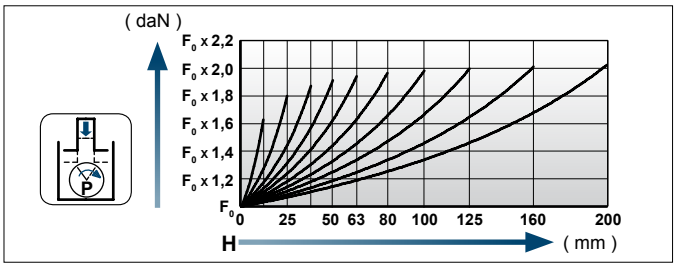


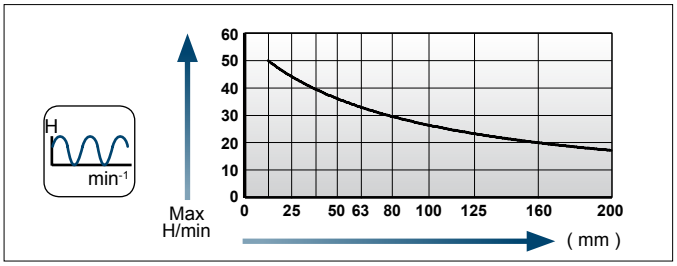


NC.010.18.02500.063

H Hub / Stroke	L ±0,25	LG	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	78	66	2550	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	104	79	2550	
038	130	92	2550	
050	154	104	2550	
063	180	117	2550	
080	214	134	2550	
100	254	154	2550	
125	304	179	2550	
160	374	214	2550	
200	454	254	2550	



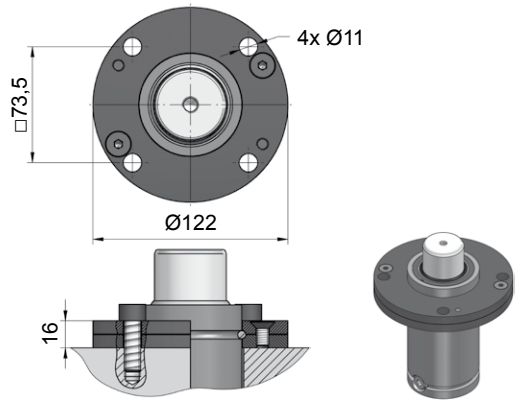




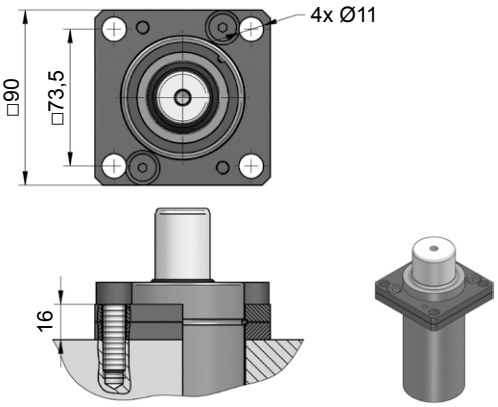
Einbaubeispiele / Flange mounting options

[NC]

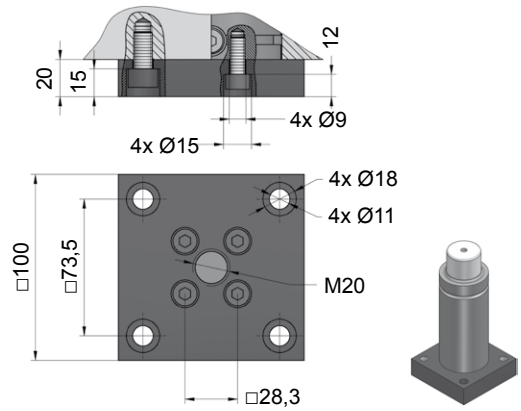
Flansche für / Flanges for **NC.010.18.02500**



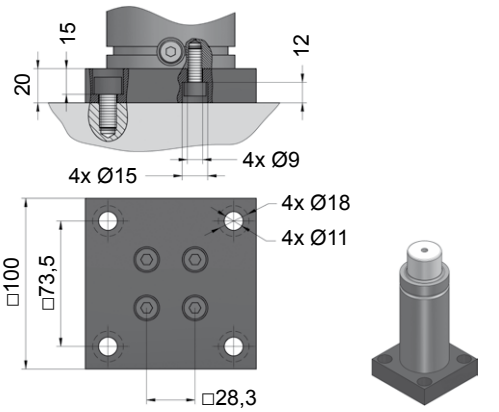
NC.88.00.075.0114



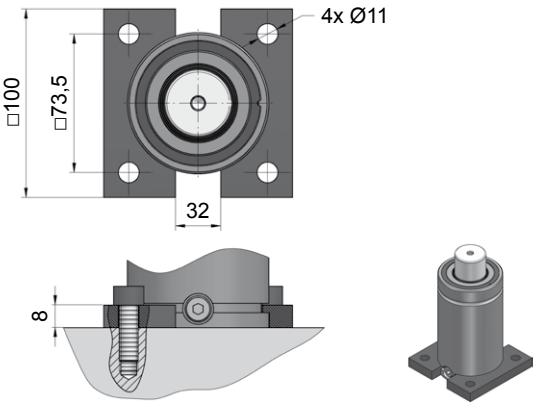
NC.88.00.075.0134



NC.88.00.075.0236



NC.88.00.075.0241



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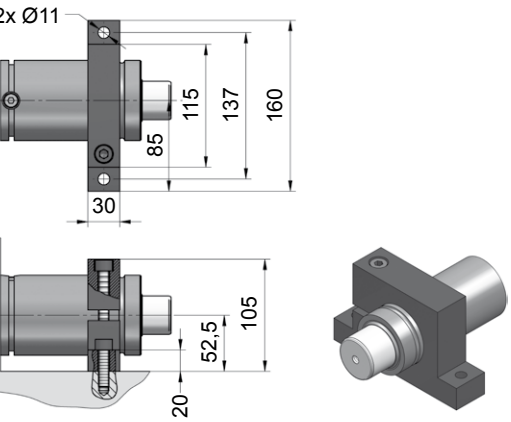
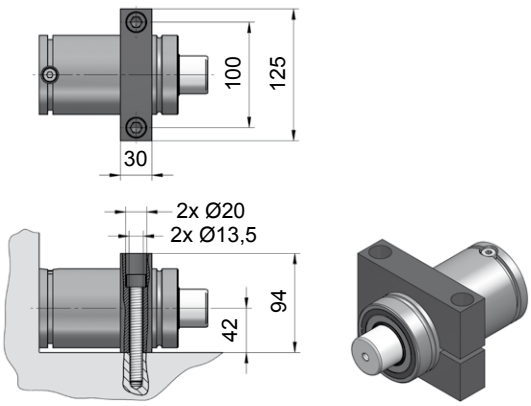


NC.88.00.075.0402



NC.88.00.075.0467

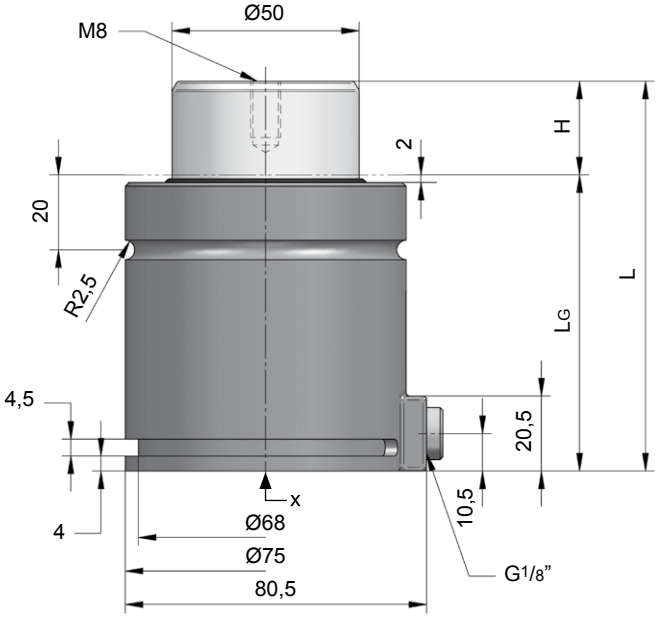
NC.010.18.03000

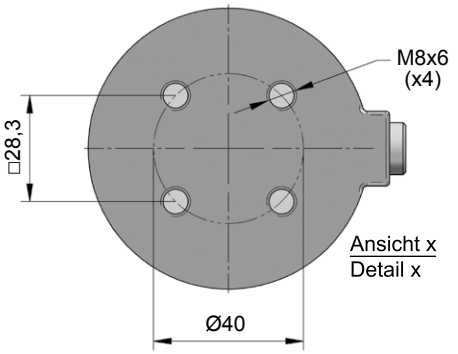
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

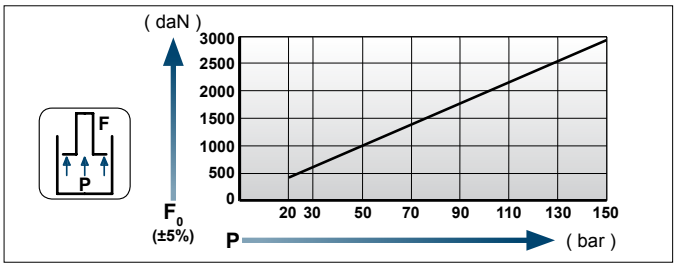
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

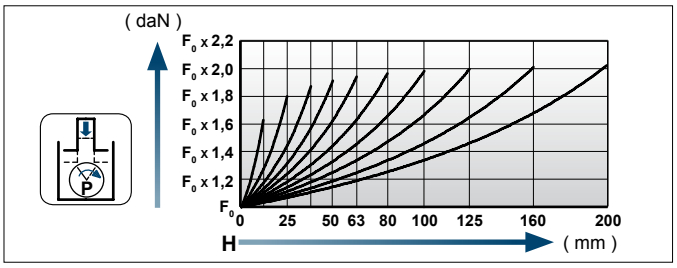


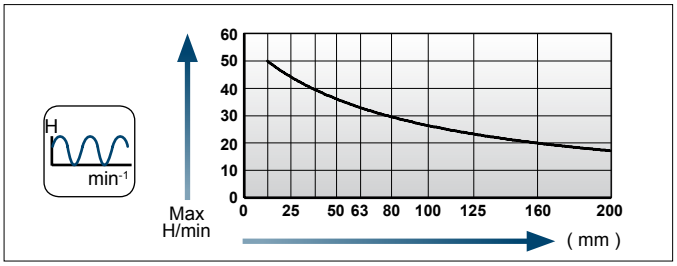


NC.010.18.03000.025

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	78	66	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	104	79	2945	
038	130	92	2945	
050	154	104	2945	
063	180	117	2945	
080	214	134	2945	
100	254	154	2945	
125	304	179	2945	
160	374	214	2945	
200	454	254	2945	



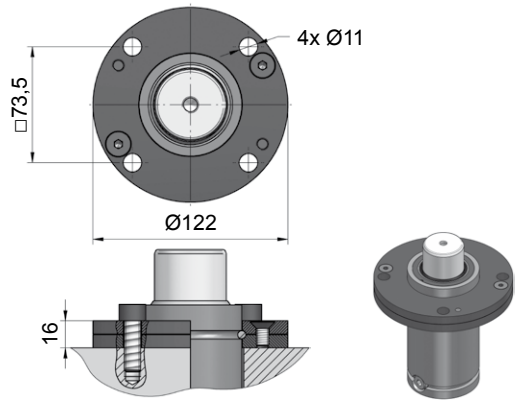




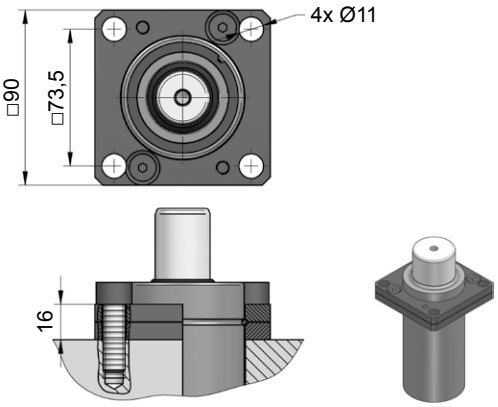
Einbaubeispiele / Flange mounting options

[NC]

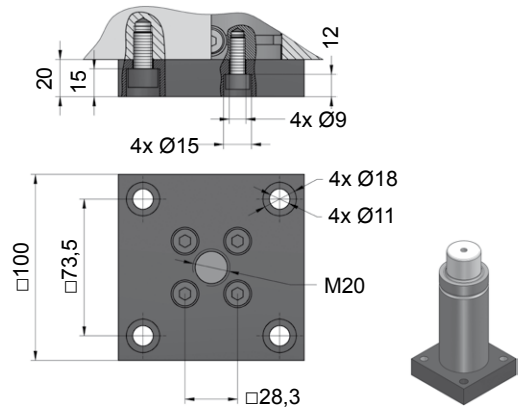
Flansche für / Flanges for **NC.010.18.03000**



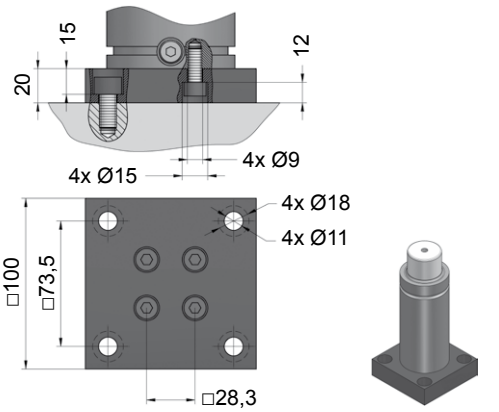
NC.88.00.075.0114



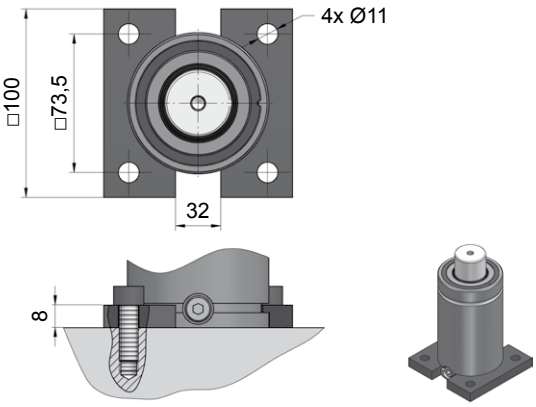
NC.88.00.075.0134



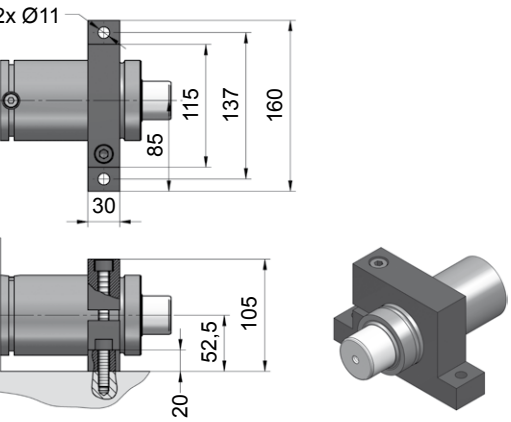
NC.88.00.075.0236



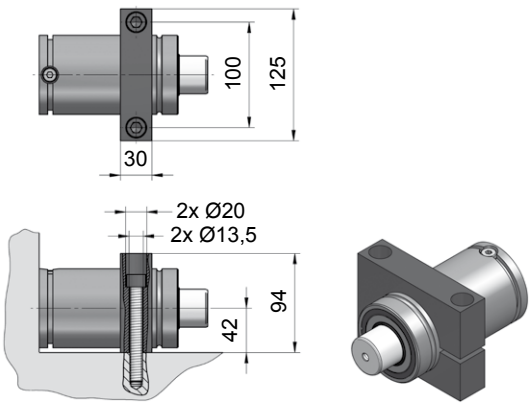
NC.88.00.075.0241



NC.88.00.075.0355



NC.88.00.075.0402



NC.88.00.075.0467

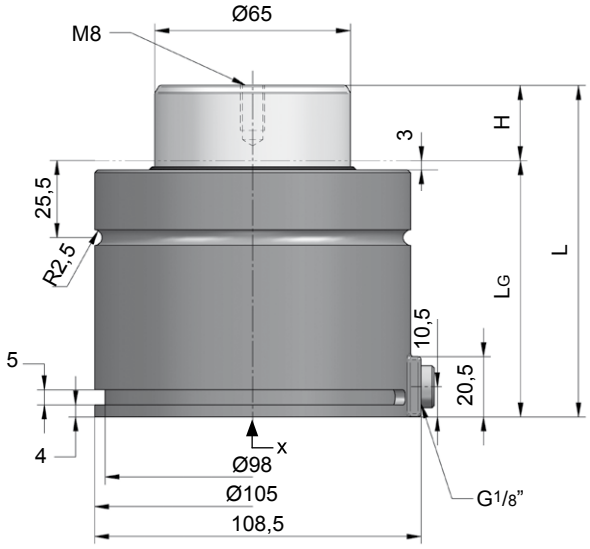
NC.010.18.05000

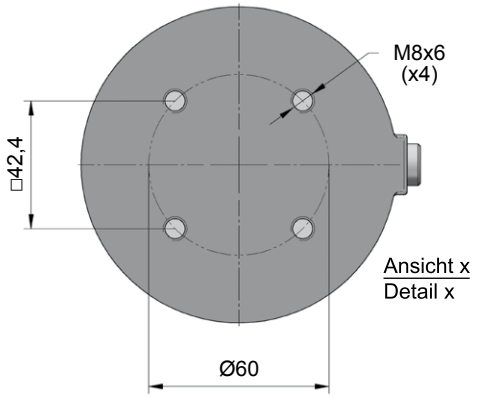
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s





NC.010.18.05000.012

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	4980	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	4980	
038	136	98	4980	
050	160	110	4980	
063	186	123	4980	
080	220	140	4980	
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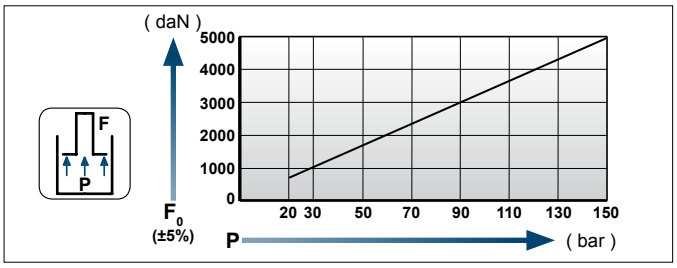
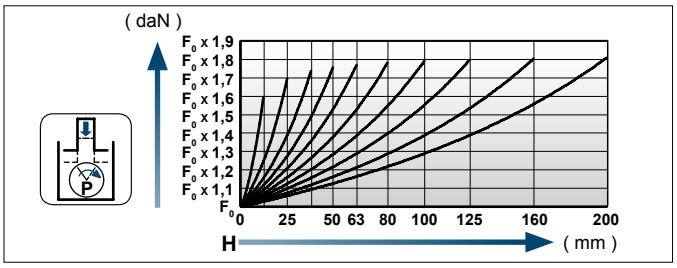
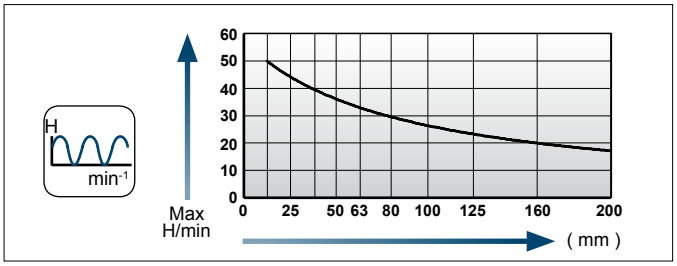
125	310	185	4980	
160	380	220	4980	
200	460	260	4980	

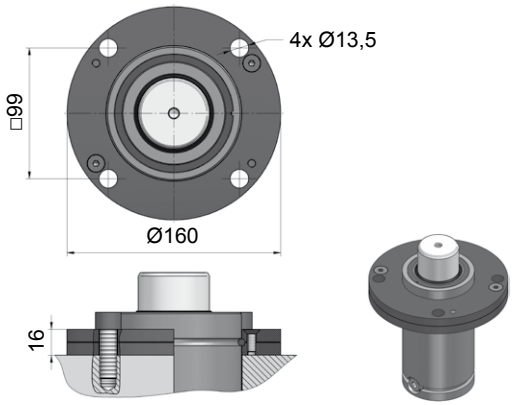




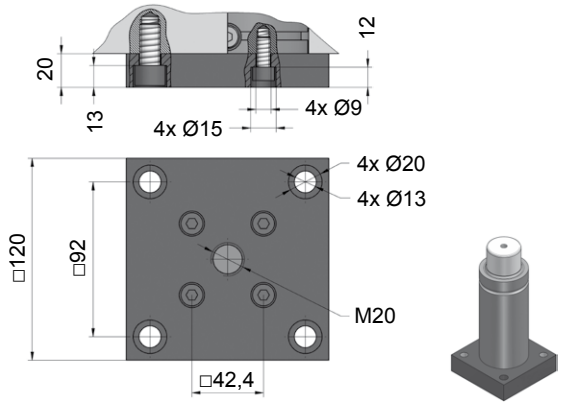


Einbaubeispiele / Flange mounting options

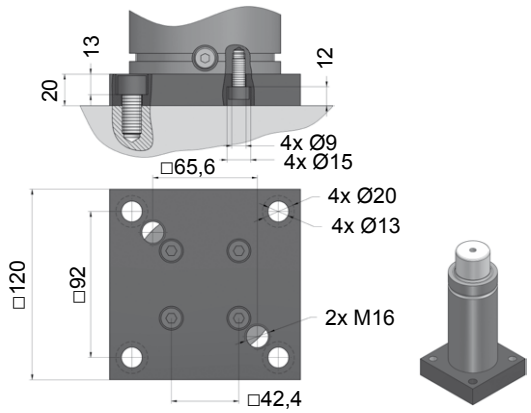
Flansche für / Flanges for **NC.010.18.05000**



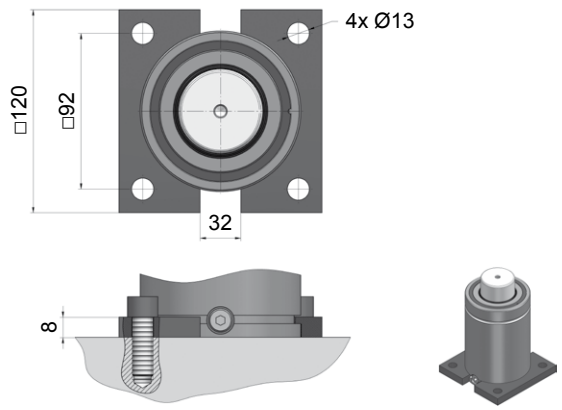
NC.88.00.105.0114



NC.88.00.105.0236



NC.88.00.105.0241

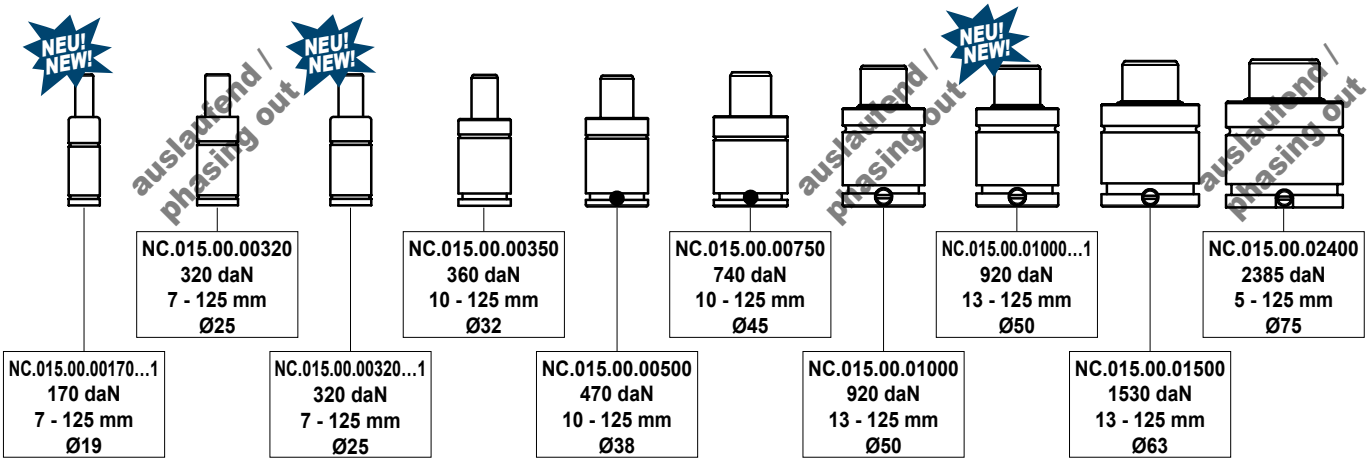


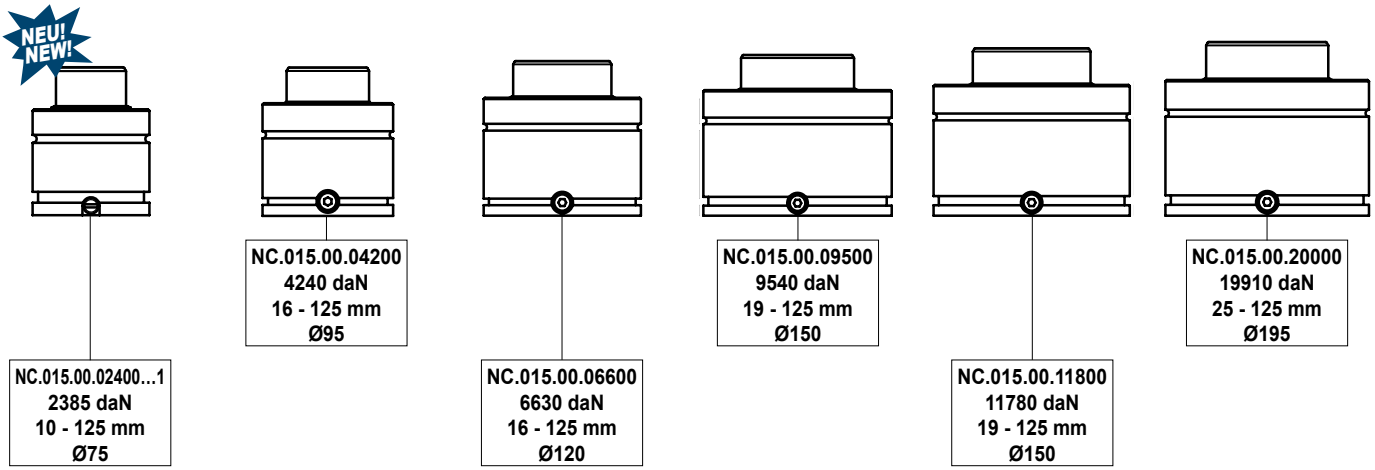
NC.88.00.105.0355

[NC]

Größenübersicht Serie NC.015.00

Gas spring index NC.015.00 series





NC.015.00.00170...1

NEU! NEW!

VDI 3003

ZUGELASSEN PED 97/23/EG

Technische Daten:

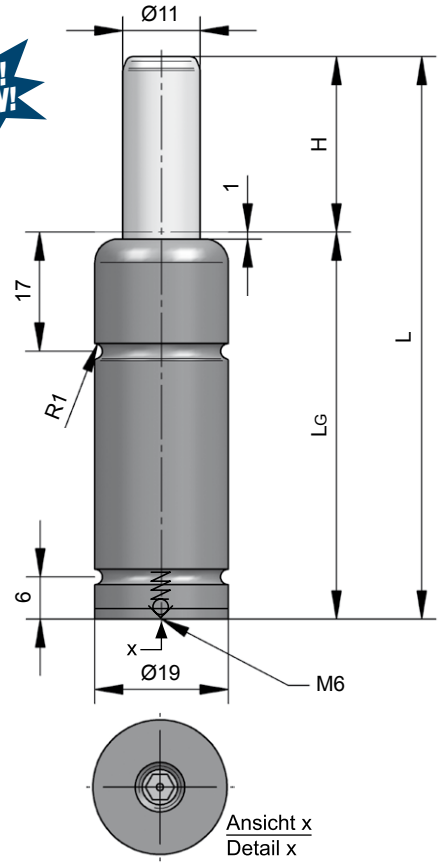
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

Specifications:

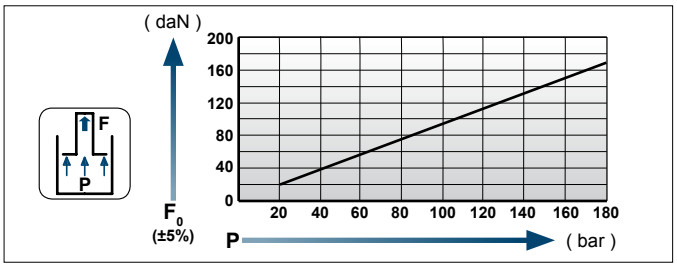
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

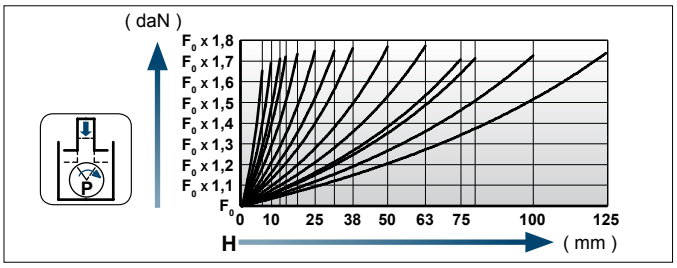
One-way spring is irreparable!

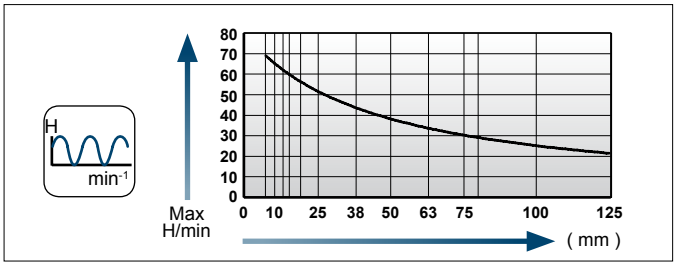


NC.015.00. 00170.038.1

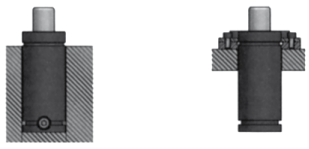
H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
007	44	37	170	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	50	40	170	
013	56	43	170	
015	60	45	170	
019	68	49	170	
025	80	55	170	
032	94	62	170	
038	106	68	170	
050	130	80	170	
063	156	93	170	
075	185	110	170	
080	195	115	170	
100	235	135	170	
125	285	160	170	





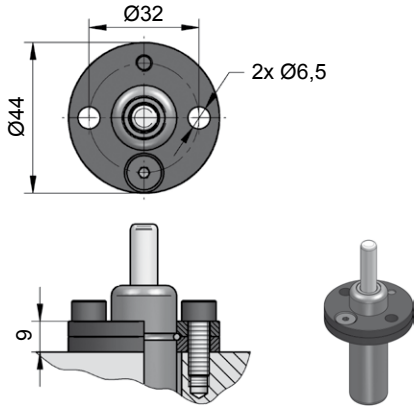


Einbaubeispiele / Flange mounting options

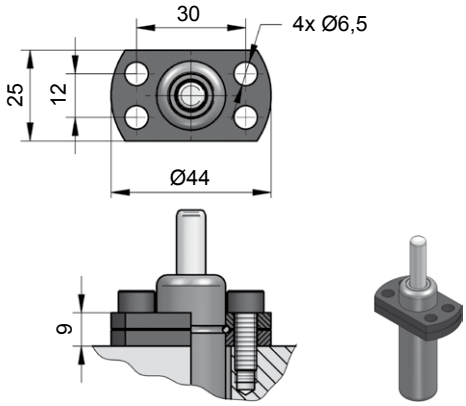


[NC]

Flansche für / Flanges for **NC.015.00.00170…1**



NC.88.00.019.0114



NC.88.00.019.0144

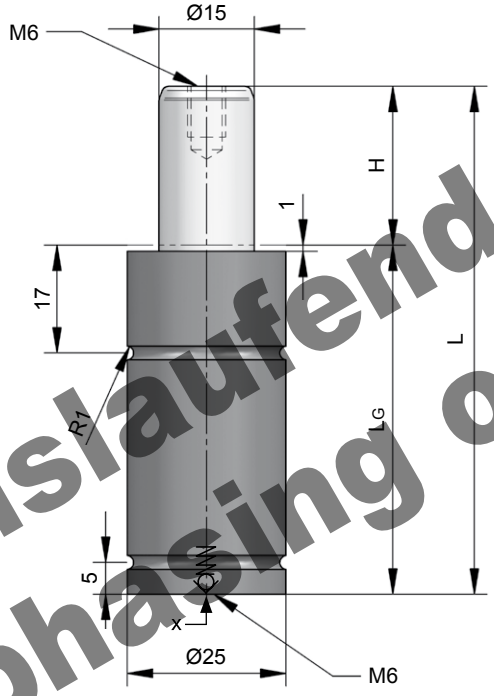
NC.015.00.00320

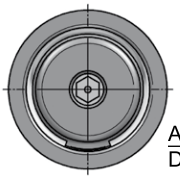
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s



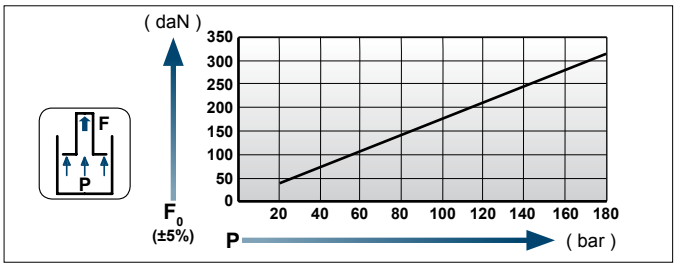


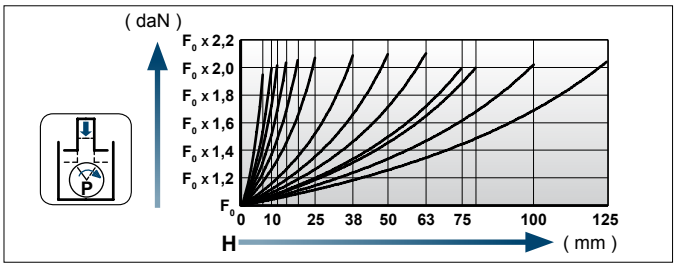
Ansicht x
Detail x

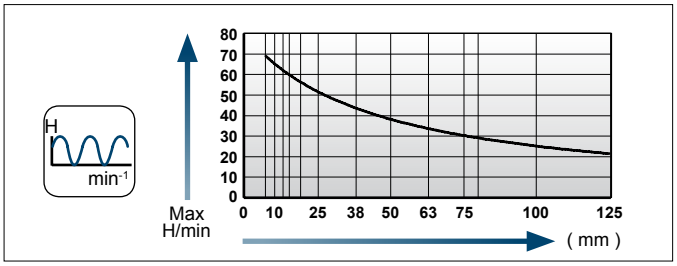
auslaufend / phasing out

NC.015.00.00320.012

H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
007	44	37	320	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	50	40	320	
012	54	42	320	
015	60	45	320	
019	68	49	320	
025	80	55	320	
038	106	68	320	
050	130	80	320	
063	156	93	320	
075	185	110	320	
080	195	115	320	
100	235	135	320	
125	285	160	320	

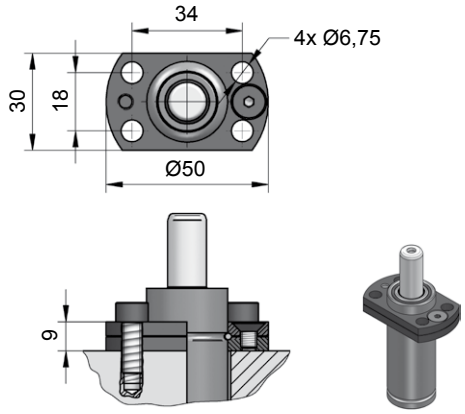




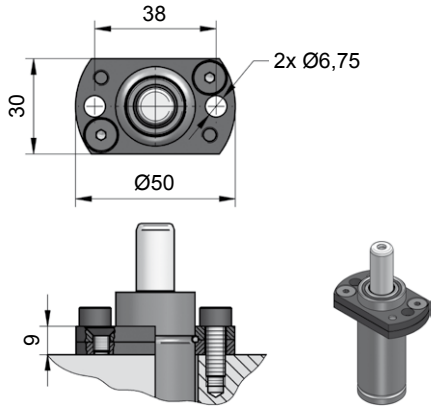


Einbaubeispiele / Flange mounting options

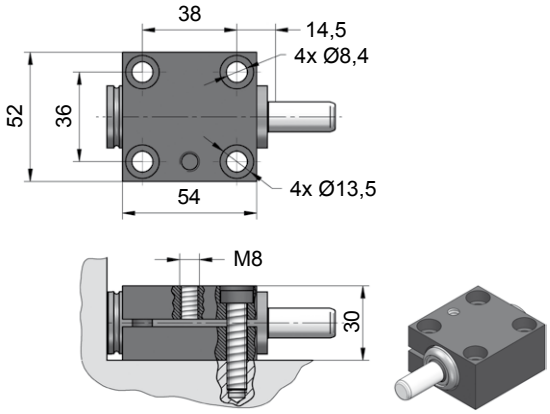
Flansche für / Flanges for **NC.015.00.00320**



NC.88.00.025.0144



NC.88.00.025.0149



NC.88.00.025.0402

NC.015.00.00320...1

NEU! NEW!

ZUGELASSEN PED 97/23/EG

Technische Daten:

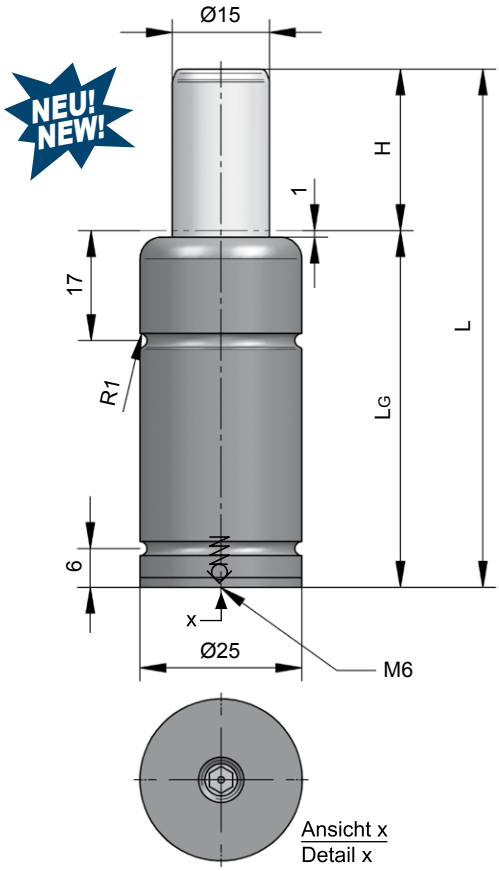
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

Specifications:

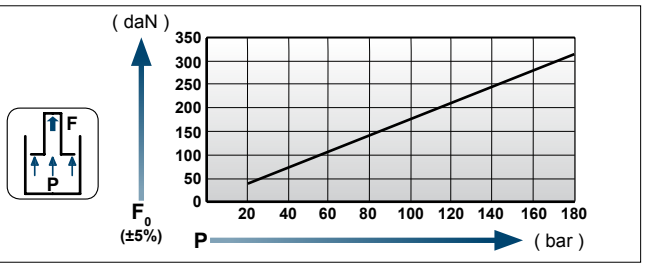
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

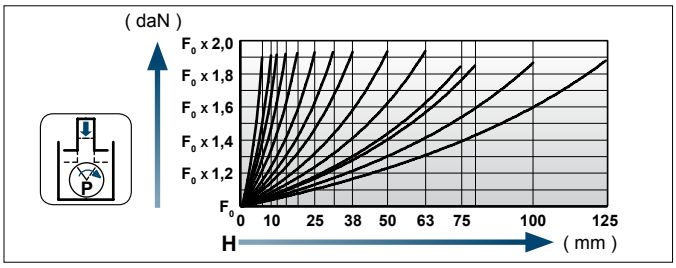
One-way spring is irreparable!

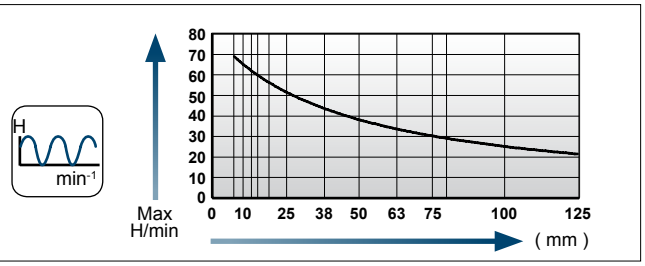


NC.015.00. 00320.012.1

H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
007	44	37	320	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	50	40	320	
012	54	42	320	
015	60	45	320	
019	68	49	320	
025	80	55	320	
032	94	62	320	
038	106	68	320	
050	130	80	320	
063	156	93	320	
075	185	110	320	
080	195	115	320	
100	235	135	320	
125	285	160	320	



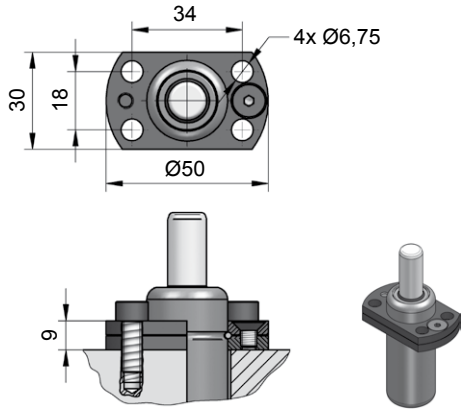




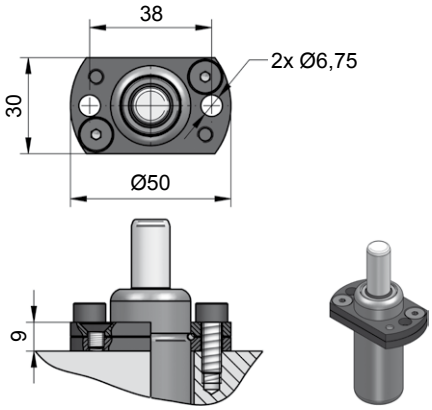
Einbaubeispiele / Flange mounting options

[NC]

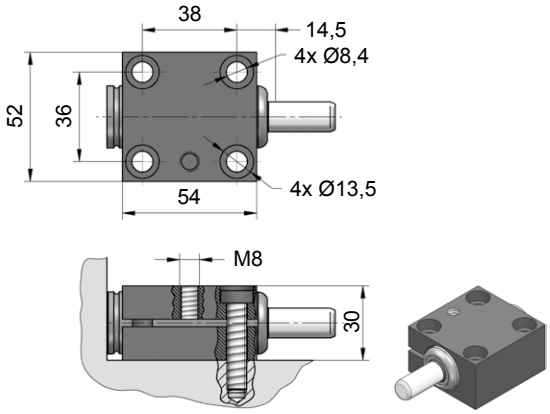
Flansche für / Flanges for **NC.015.00.00320…1**



NC.88.00.025.0144

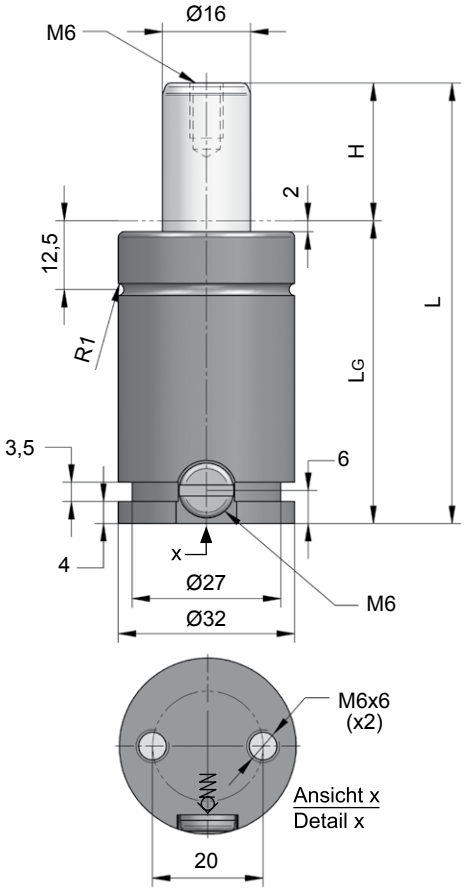


NC.88.00.025.0149



NC.88.00.025.0402

NC.015.00.00350



Technische Daten:

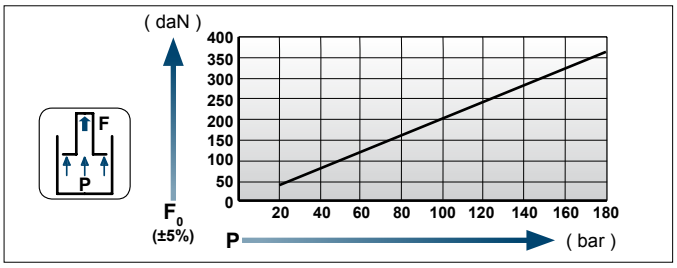
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

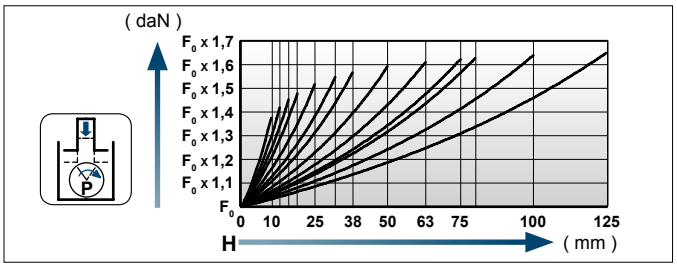
Specifications:

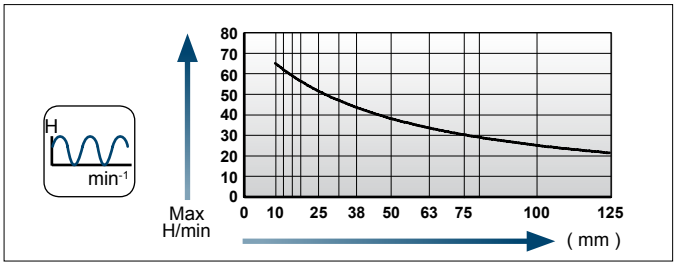
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.015.00.00350.013

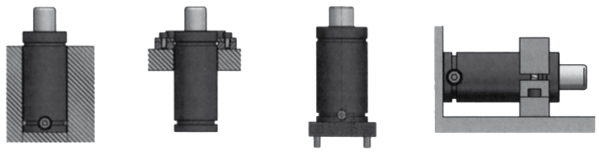
H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	50	40	360	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
013	56	43	360	
016	62	46	360	
019	68	49	360	
025	80	55	360	
032	94	62	360	
038	106	68	360	
050	130	80	360	
063	156	93	360	
075	180	105	360	
080	190	110	360	
100	230	130	360	
125	280	155	360	





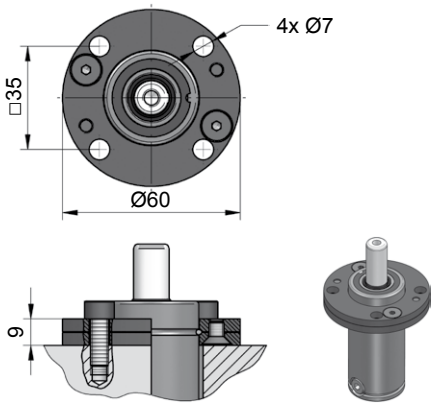


Einbaubeispiele / Flange mounting options

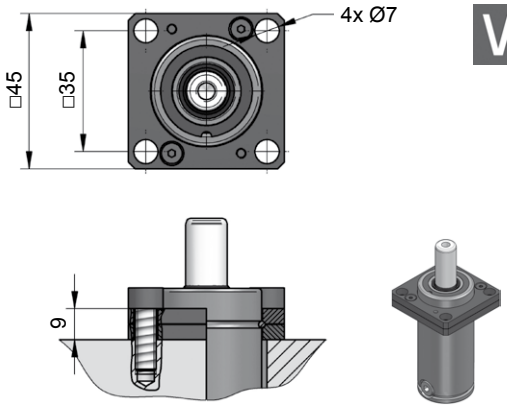


[NC]

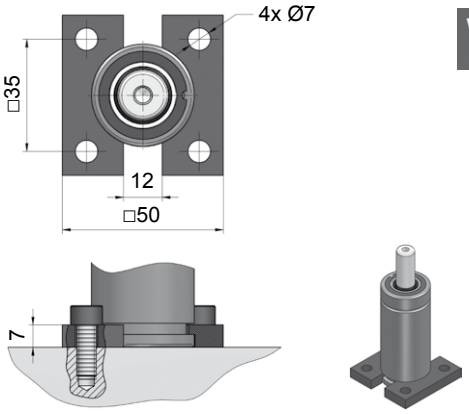
Flansche für / Flanges for **NC.015.00.00350**



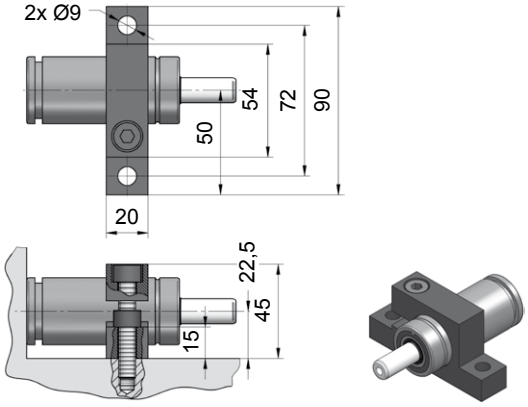
NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0320



NC.88.00.032.0402

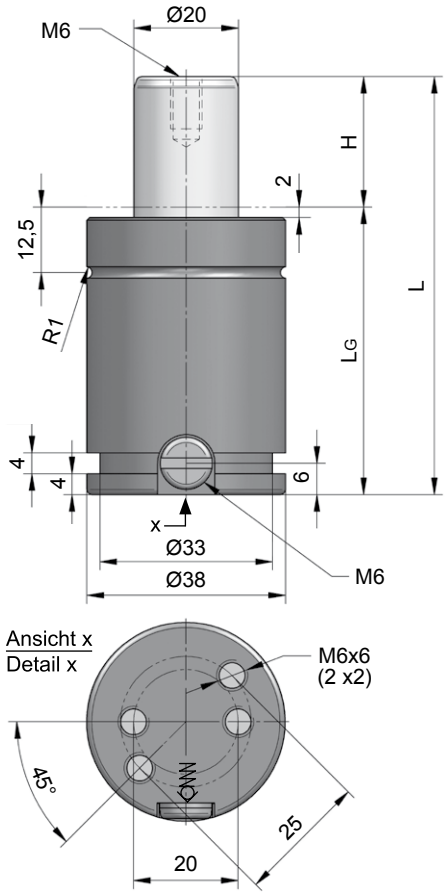
NC.015.00.00500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

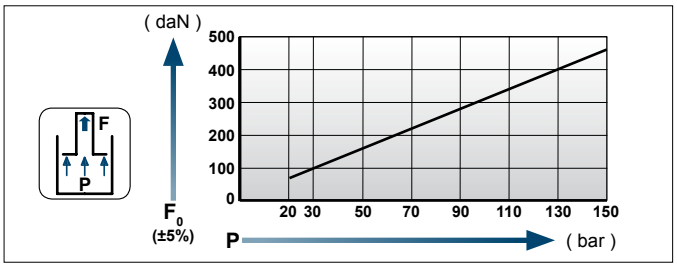
Specifications:

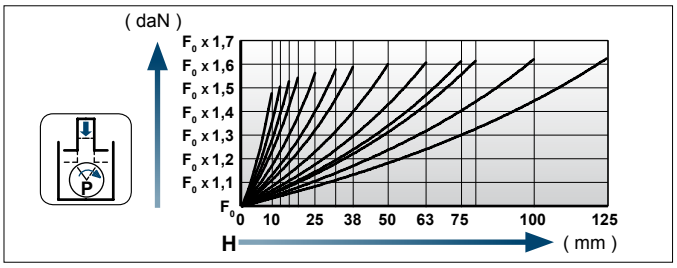
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

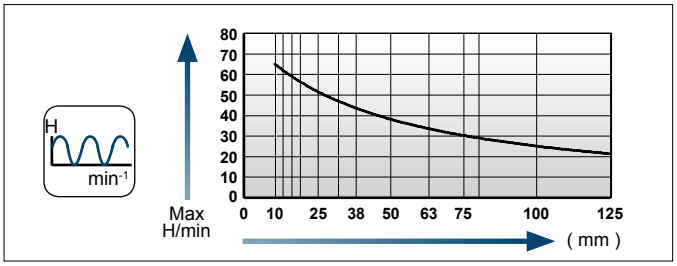


NC.015.00.
00500.016

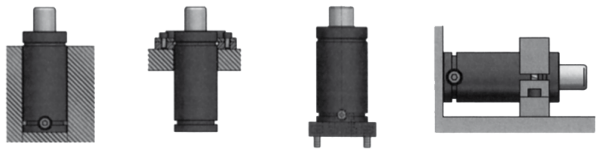
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	50	40	470	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
013	56	43	470	
016	62	46	470	
019	68	49	470	
025	80	55	470	
032	94	62	470	
038	106	68	470	
050	130	80	470	
063	156	93	470	
075	180	105	470	
080	190	110	470	
100	230	130	470	
125	280	155	470	



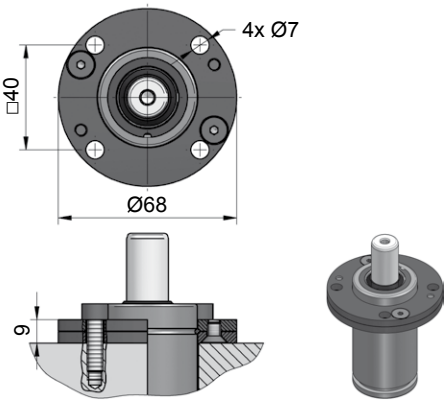




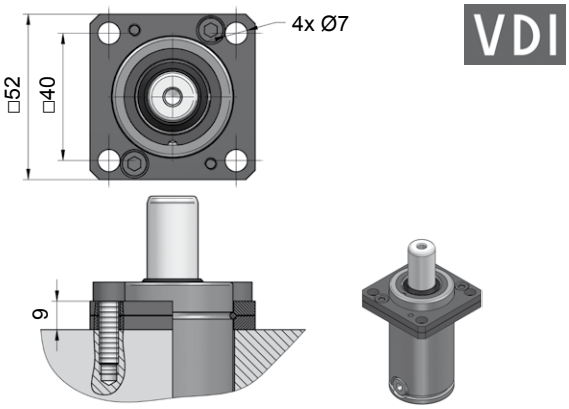
Einbaubeispiele / Flange mounting options



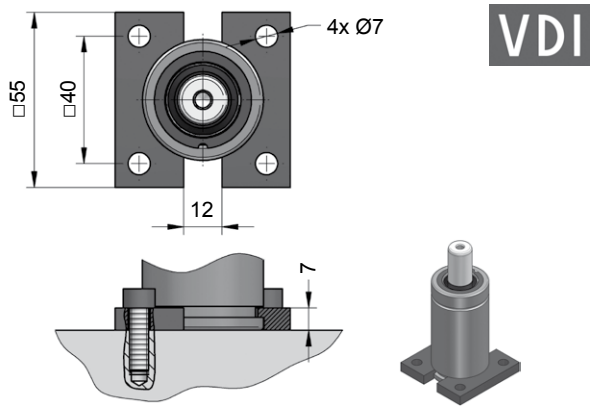
Flansche für / Flanges for **NC.015.00.00500**



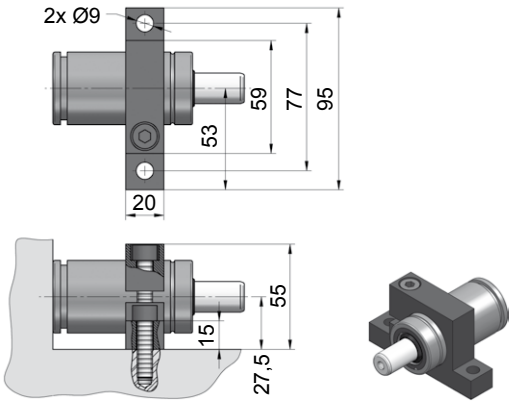
NC.88.00.038.0114



NC.88.00.038.0134



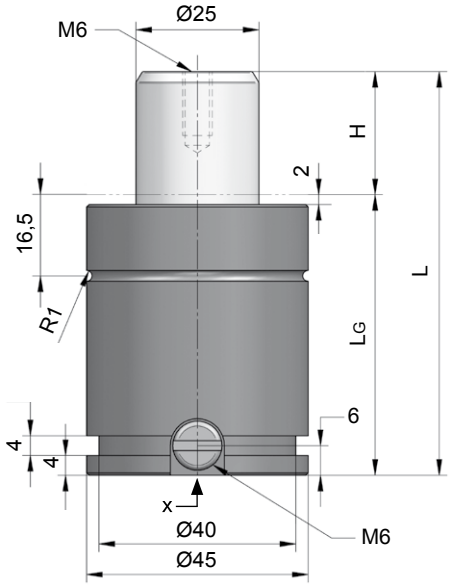
NC.88.00.038.0320

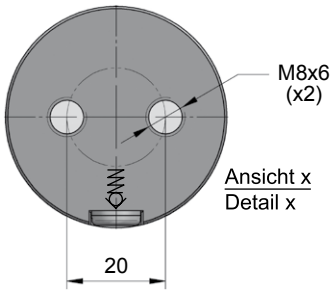


NC.88.00.038.0402

[NC]

NC.015.00.00750





Technische Daten:

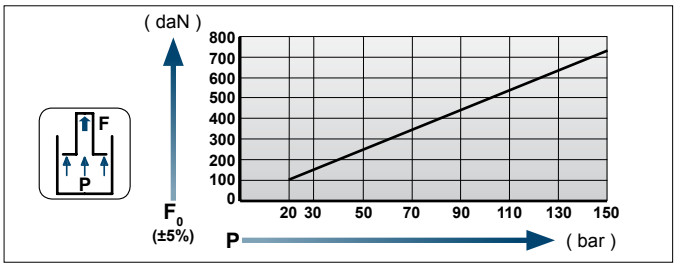
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

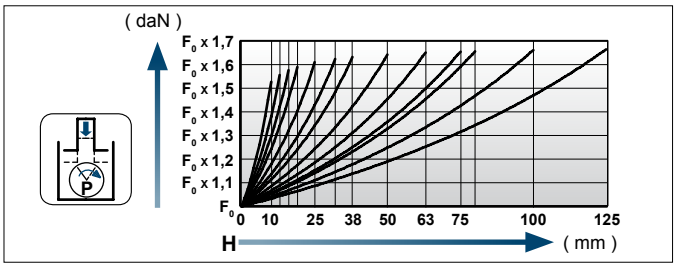
Specifications:

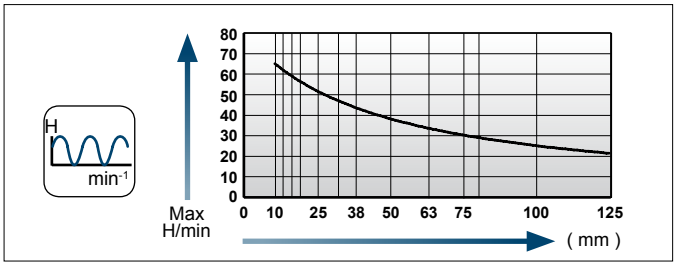
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.015.00.00750.025

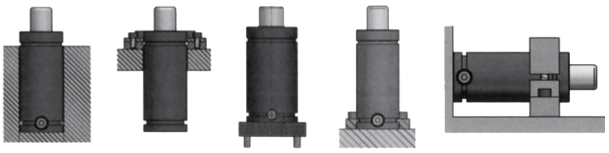
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	52	42	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
013	58	45	740	
016	64	48	740	
019	70	51	740	
025	82	57	740	
032	96	64	740	
038	108	70	740	
050	132	82	740	
063	158	95	740	
075	182	107	740	
080	192	112	740	
100	232	132	740	
125	282	157	740	



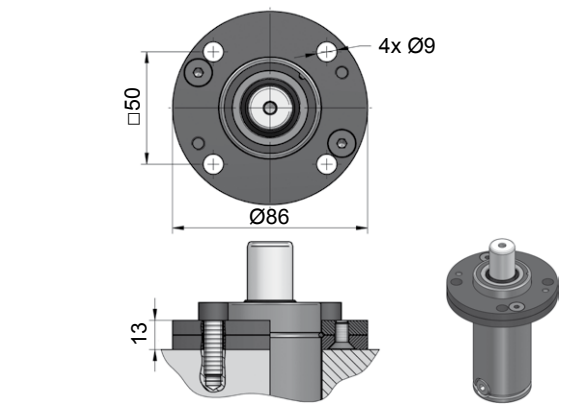




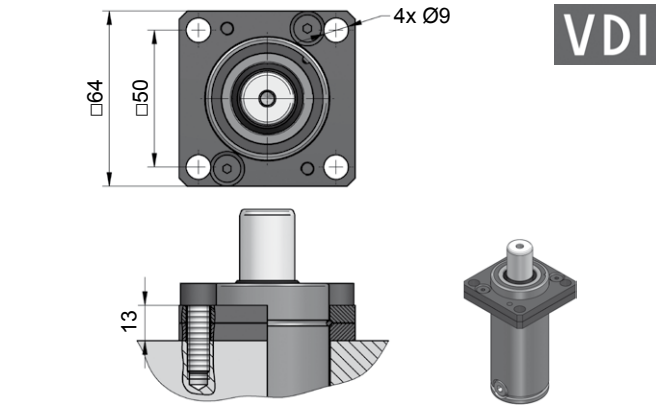
Einbaubeispiele / Flange mounting options



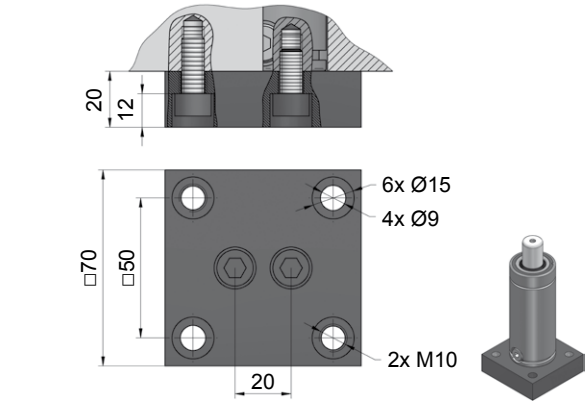
Flansche für / Flanges for **NC.015.00.00750**



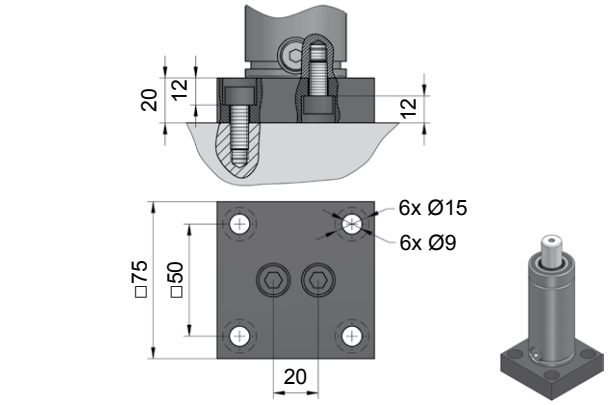
NC.88.00.045.0114



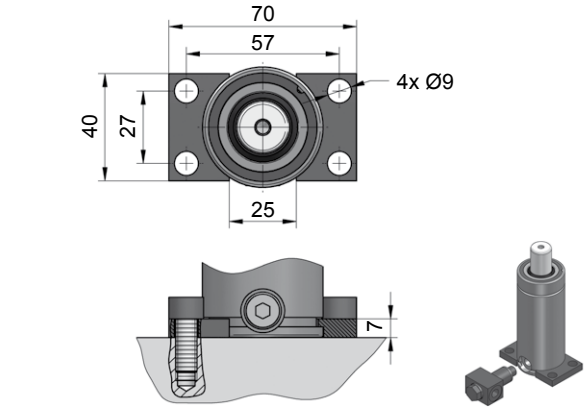
NC.88.00.045.0134



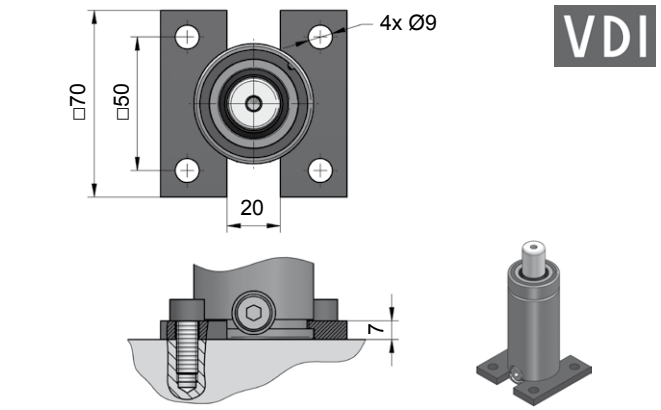
NC.88.00.045.0236



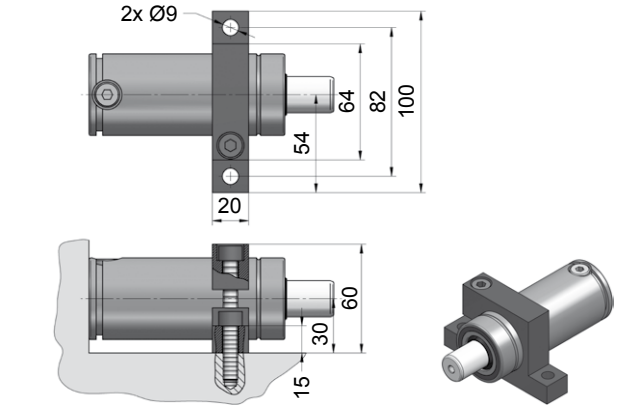
NC.88.00.045.0241



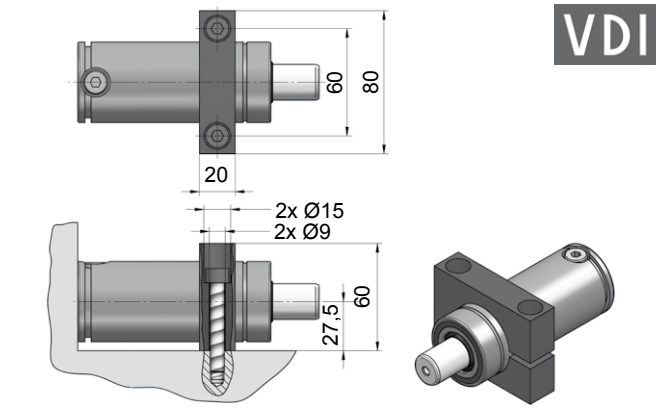
NC.88.00.045.0305



NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

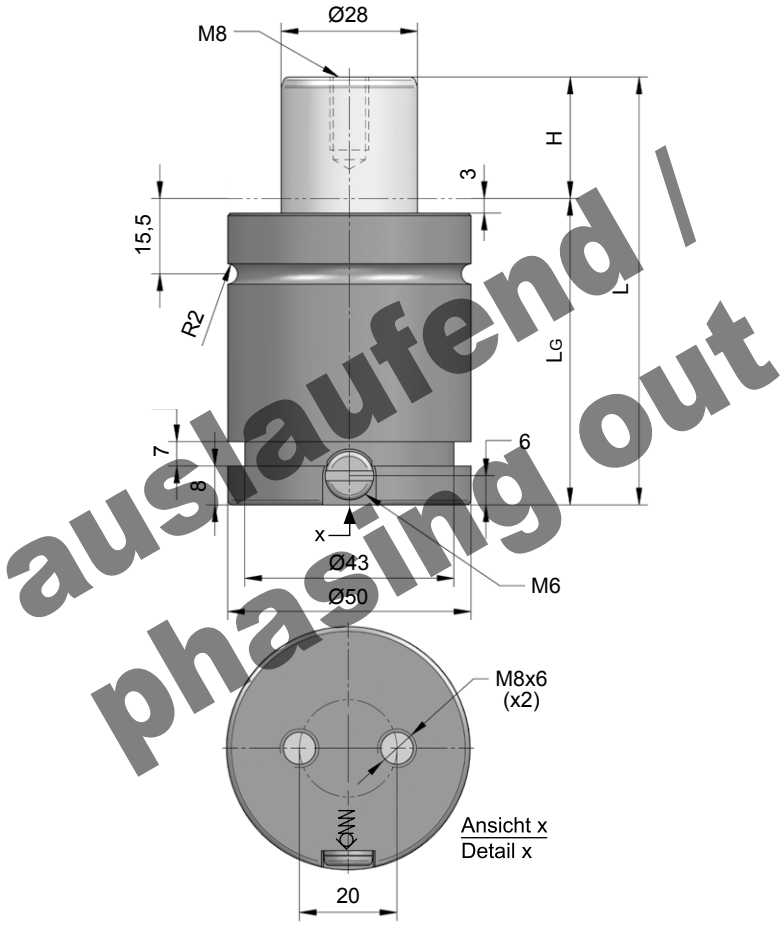
NC.015.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

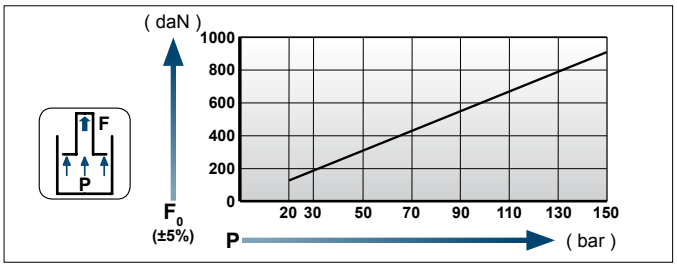
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

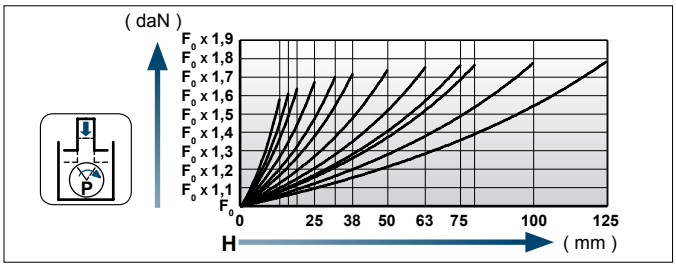


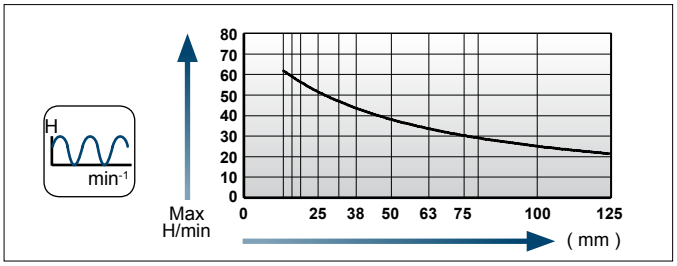
auslaufend / phasing out

NC.015.00.01000.032

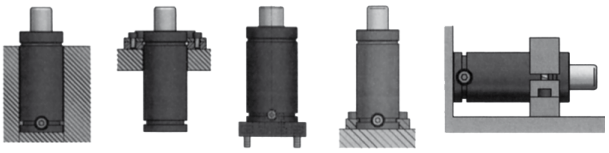
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
013	64	51	920	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	70	54	920	
019	76	57	920	
025	88	63	920	
032	102	70	920	
038	114	76	920	
050	138	88	920	
063	164	101	920	
075	188	113	920	
080	198	118	920	
100	238	138	920	
125	288	163	920	



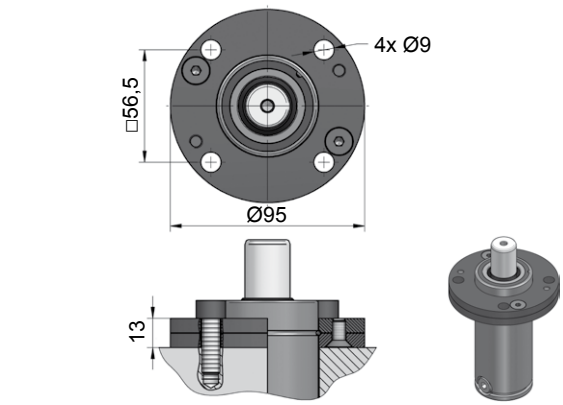




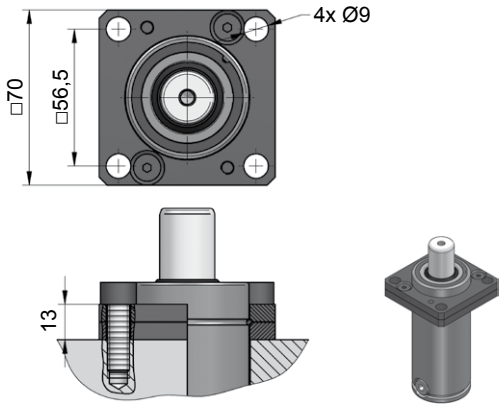
Einbaubeispiele / Flange mounting options



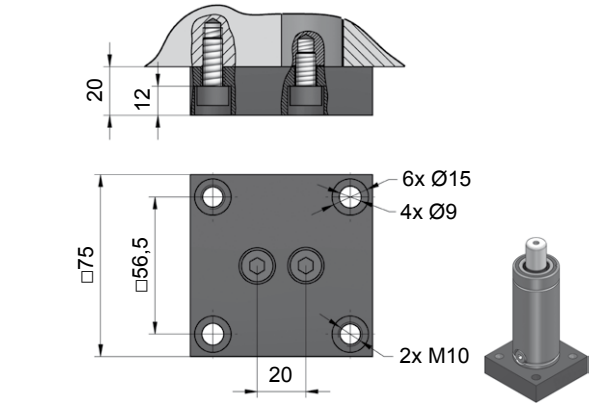
Flansche für / Flanges for **NC.015.00.01000**



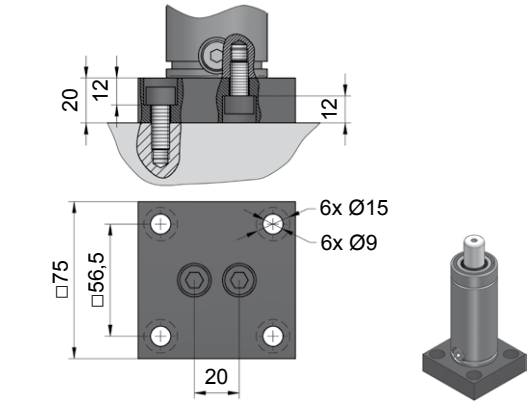
NC.88.00.050.0114



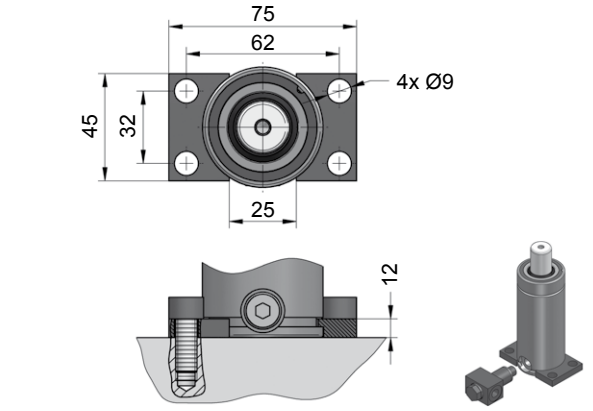
NC.88.00.050.0134



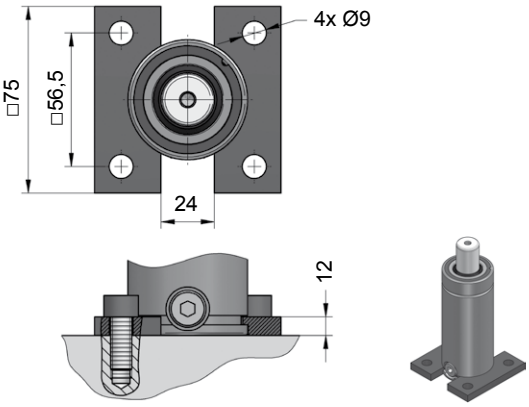
NC.88.00.050.0236



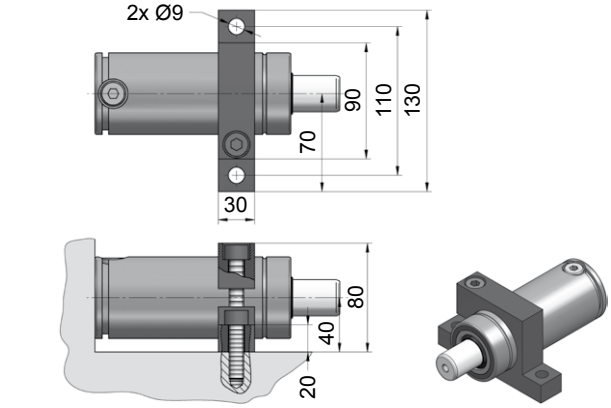
NC.88.00.050.0241



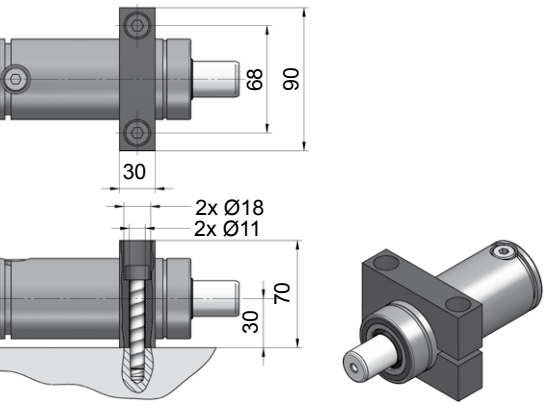
NC.88.00.050.0305



NC.88.00.050.0320



NC.88.00.050.0402



NC.88.00.050.0467

NC.015.00.01000...1

NEU! NEW!

VDI 3003

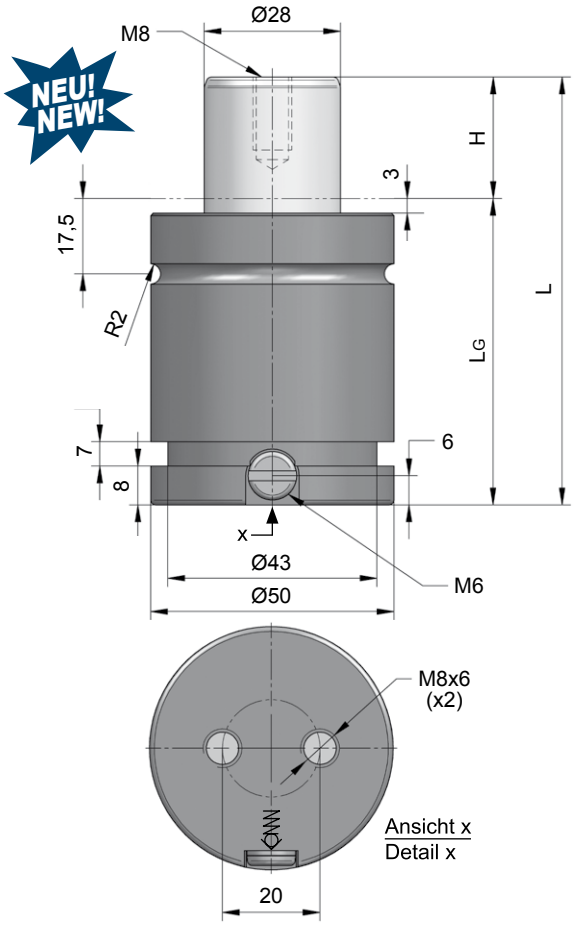
ZUGELASSEN PED 97/23/EG

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

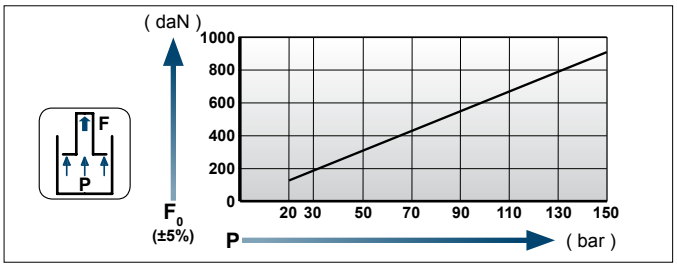
Specifications:

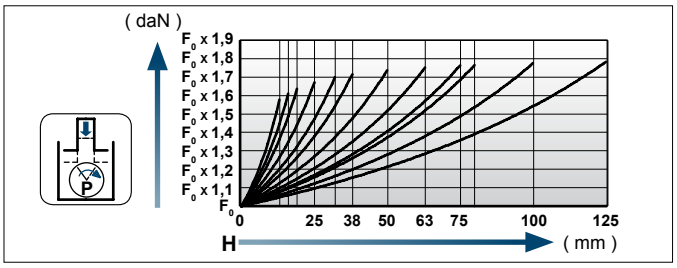
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

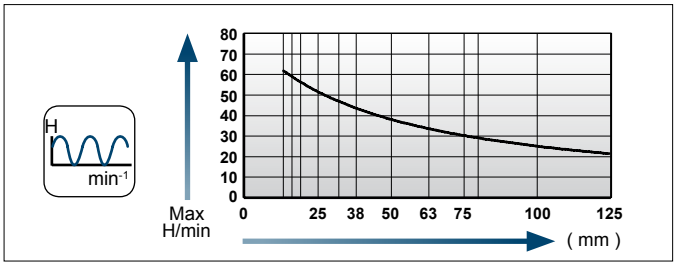


NC.015.00.01000.032.1

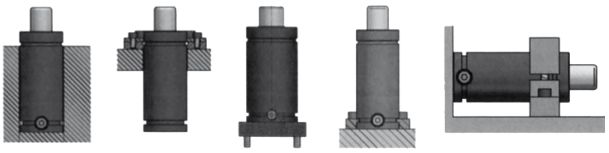
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
013	64	51	920	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	70	54	920	
019	76	57	920	
025	88	63	920	
032	102	70	920	
038	114	76	920	
050	138	88	920	
063	164	101	920	
075	188	113	920	
080	198	118	920	
100	238	138	920	
125	288	163	920	



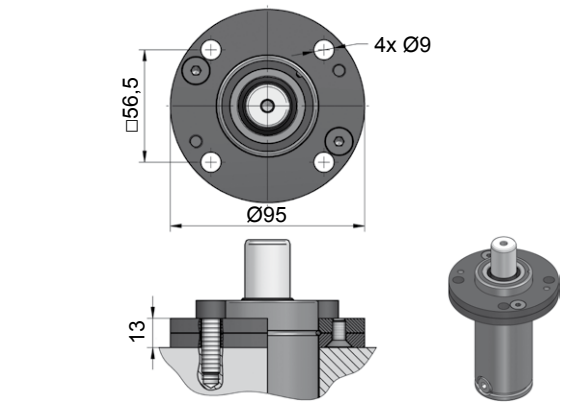




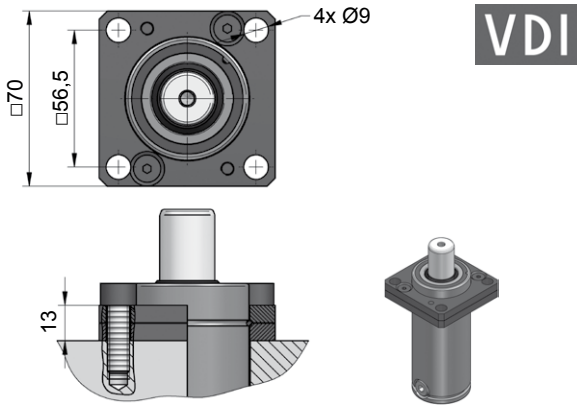
Einbaubeispiele / Flange mounting options



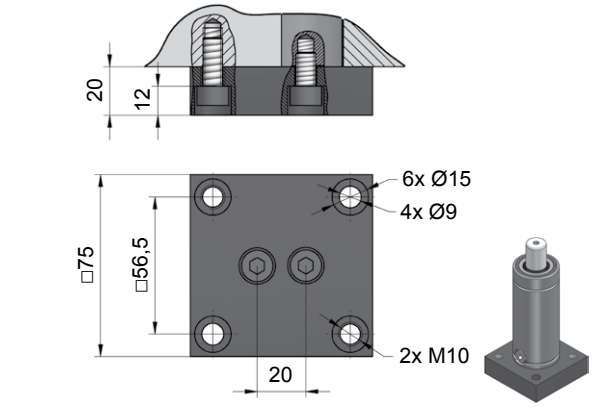
Flansche für / Flanges for **NC.015.00.01000…1**



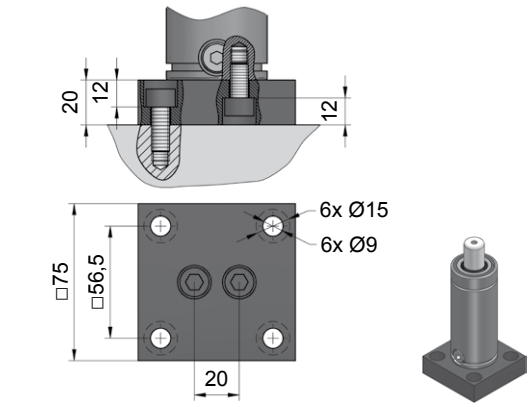
NC.88.00.050.0114



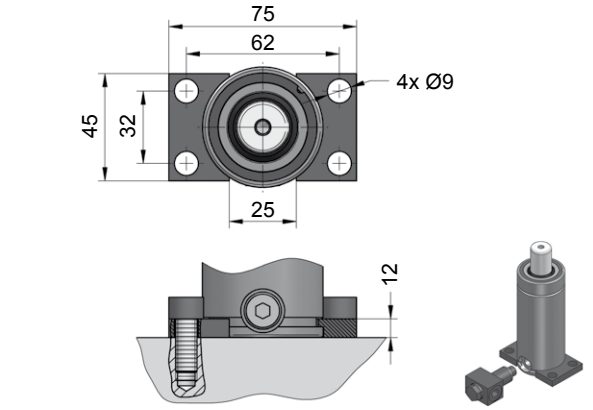
NC.88.00.050.0134



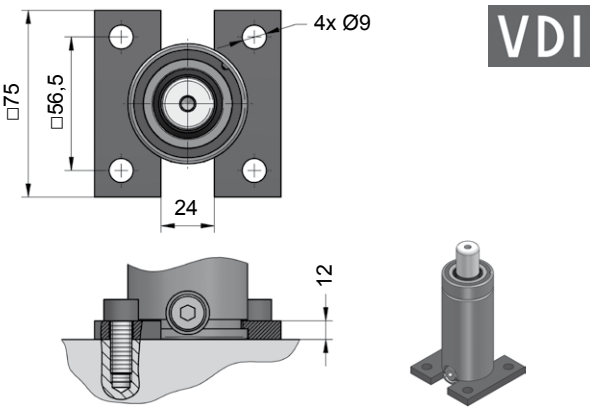
NC.88.00.050.0236



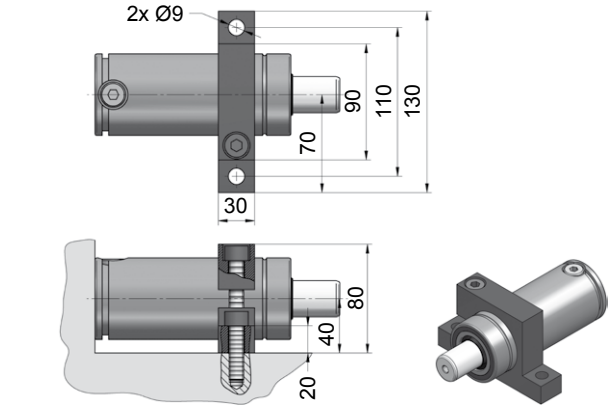
NC.88.00.050.0241



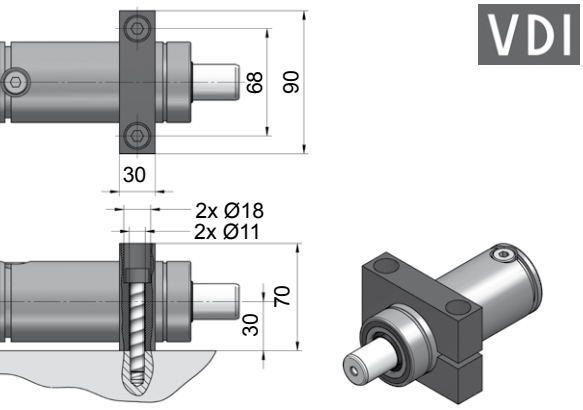
NC.88.00.050.0305



NC.88.00.050.0320



NC.88.00.050.0402



NC.88.00.050.0467

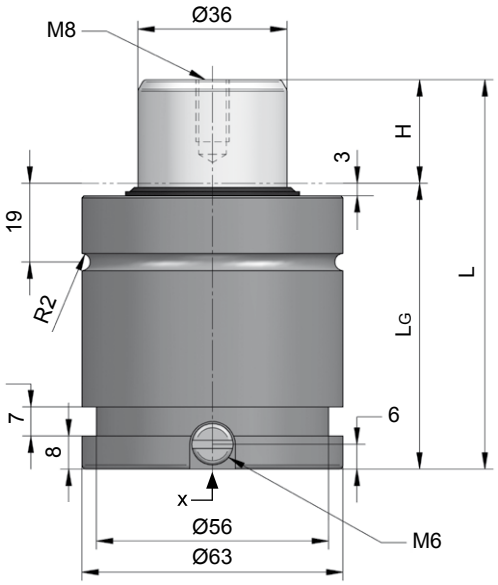
NC.015.00.01500

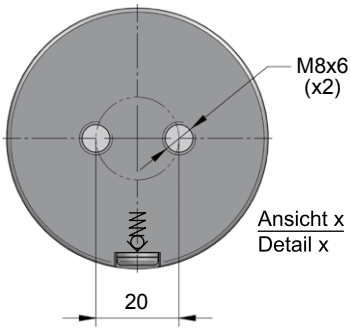
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

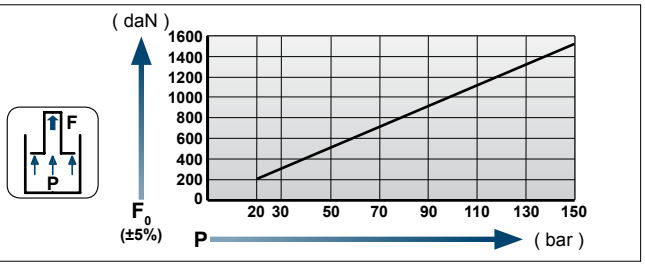
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

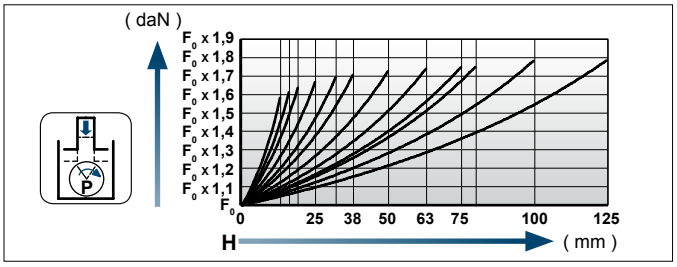


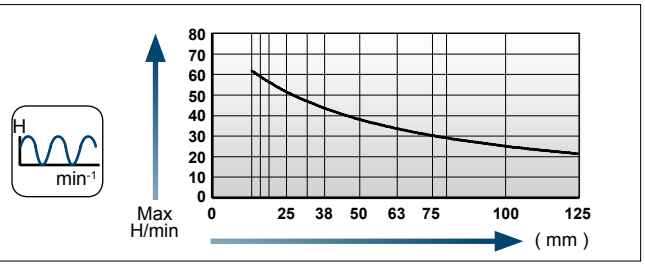


NC.015.00.01500.050

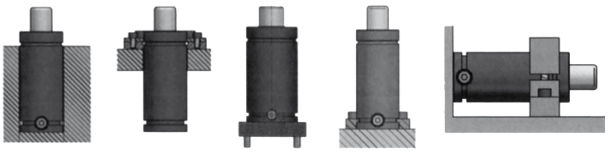
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
013	70	57	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	76	60	1530	
019	82	63	1530	
025	94	69	1530	
032	108	76	1530	
038	120	82	1530	
050	144	94	1530	
063	170	107	1530	
075	194	119	1530	
080	204	124	1530	
100	244	144	1530	
125	294	169	1530	



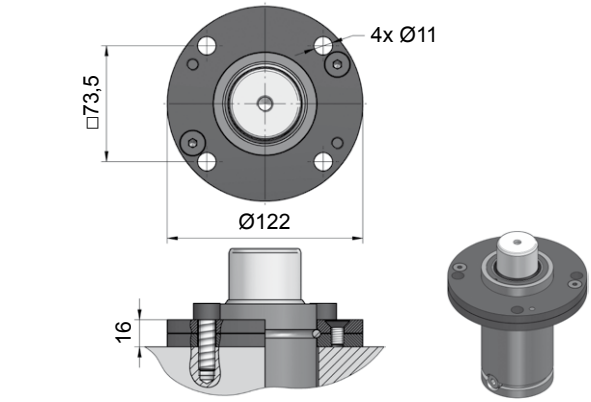




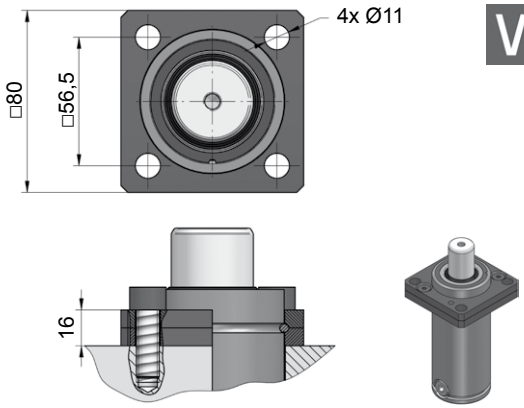
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.015.00.01500**



NC.88.00.063.0114



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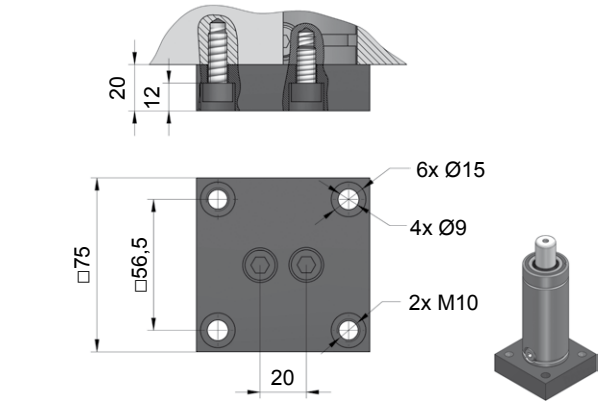
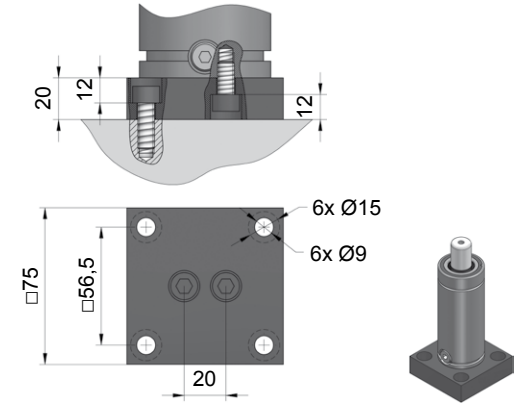
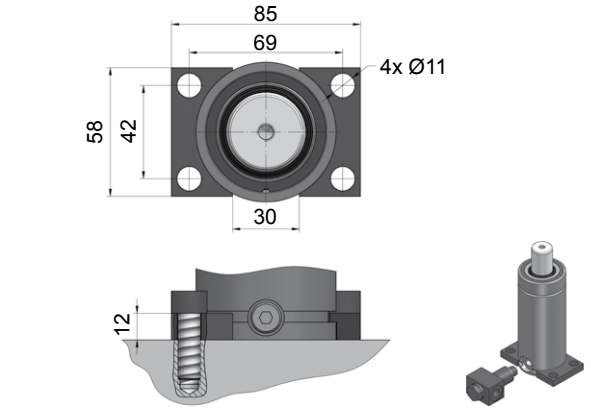


NC.88.00.063.0236



NC.88.00.063.0241



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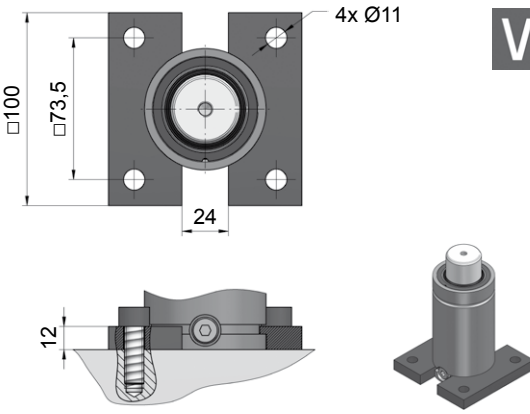
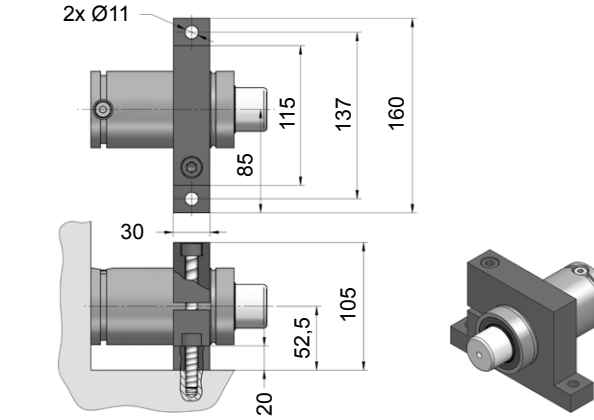
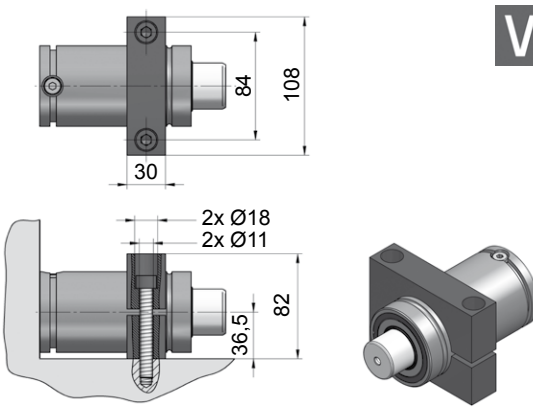


NC.88.00.063.0335



NC.88.00.063.0402



NC.88.00.063.0467

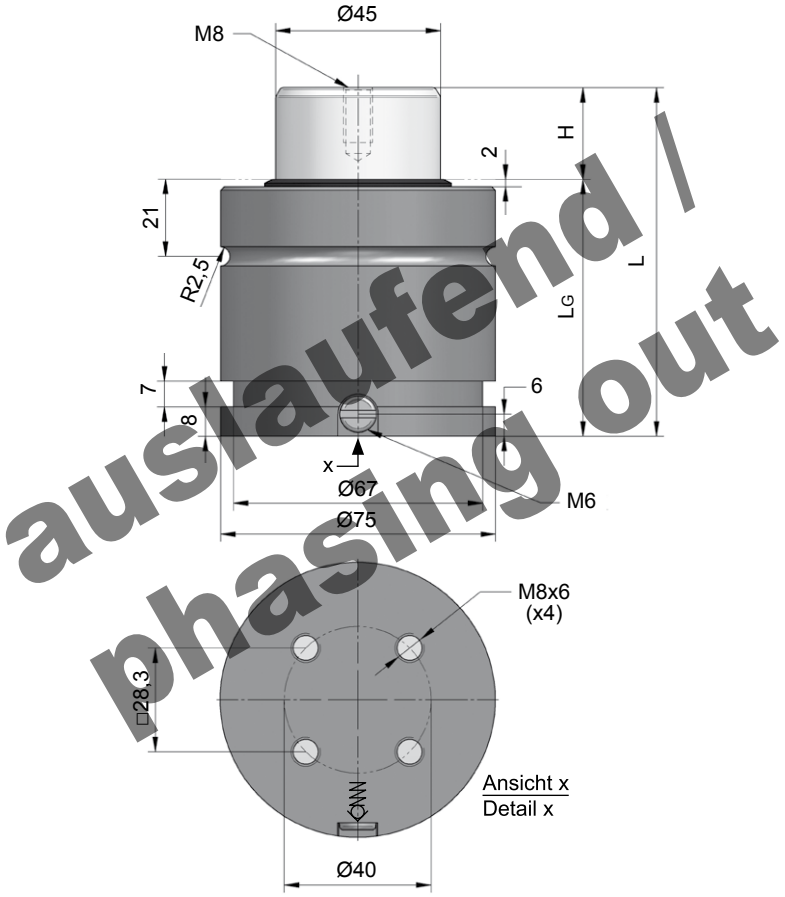
NC.015.00.02400

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

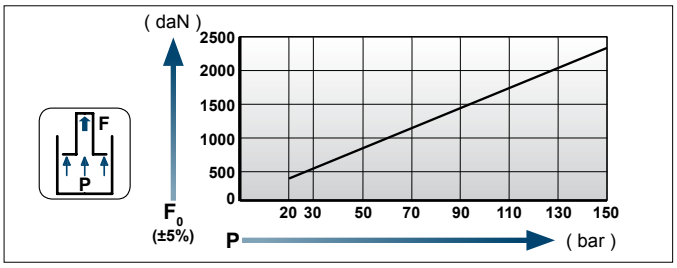
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

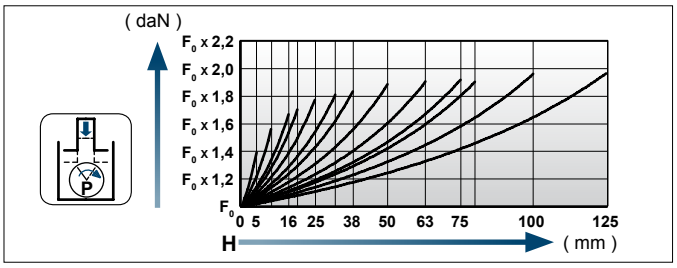


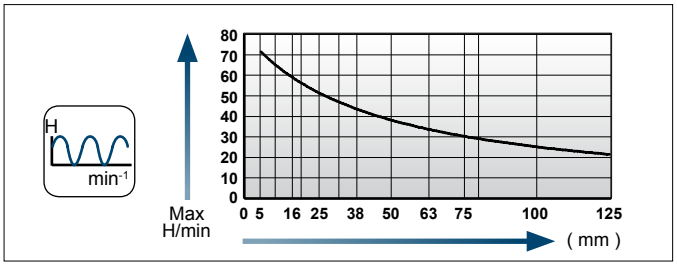
auslaufend / phasing out

NC.015.00.02400.075

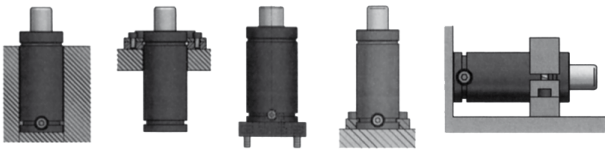
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
005	55	50	2385	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	65	55	2385	
016	77	61	2385	
019	83	64	2385	
025	95	70	2385	
032	109	77	2385	
038	121	83	2385	
050	145	95	2385	
063	171	108	2385	
075	195	120	2385	
080	205	125	2385	
100	245	145	2385	
125	295	170	2385	



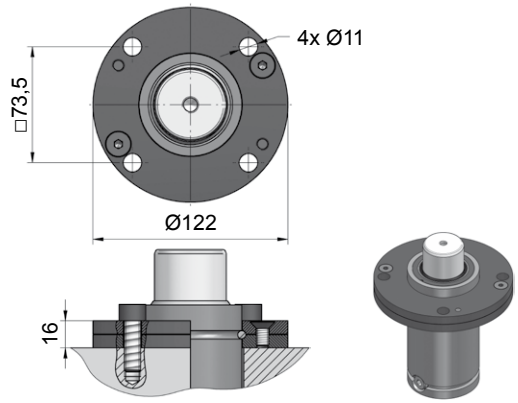




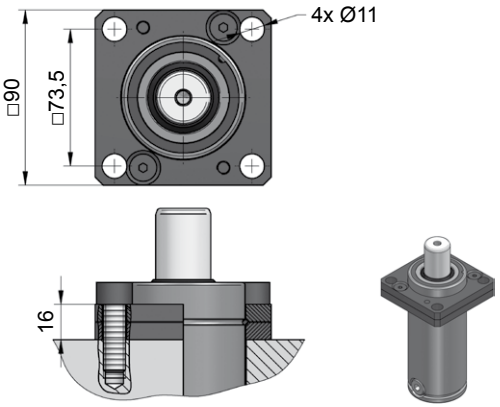
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.015.00.02400**



NC.88.00.075.0114



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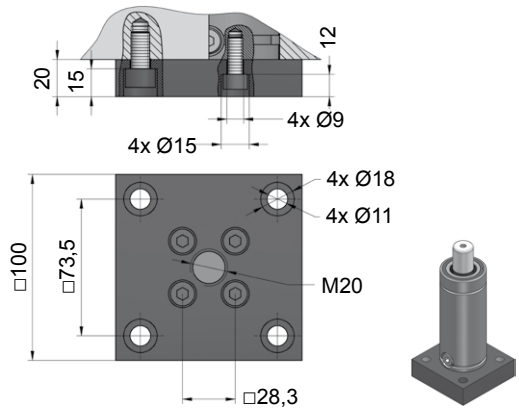
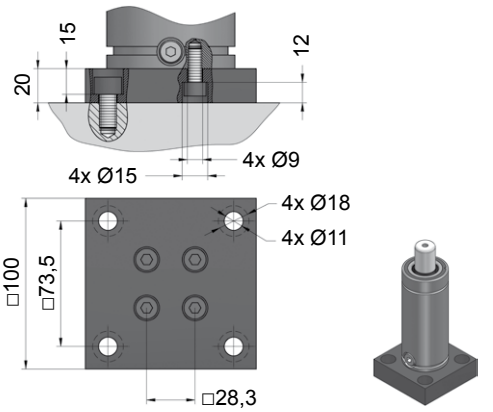
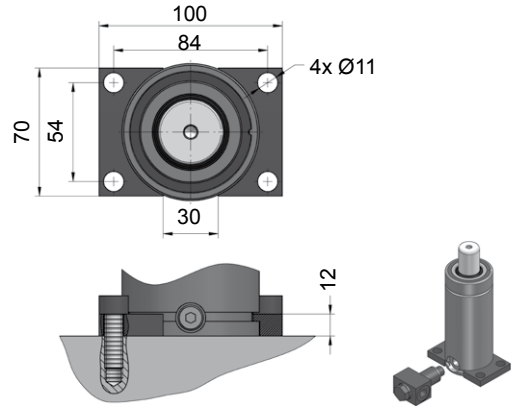


NC.88.00.075.0236



NC.88.00.075.0241



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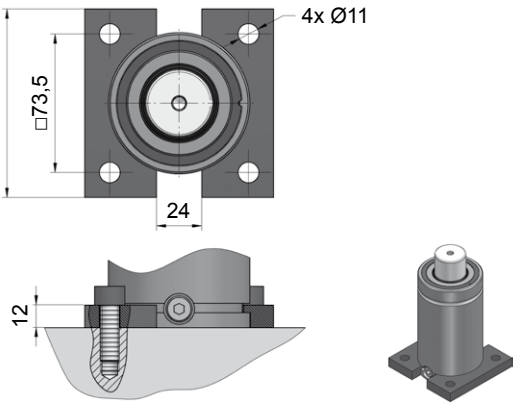
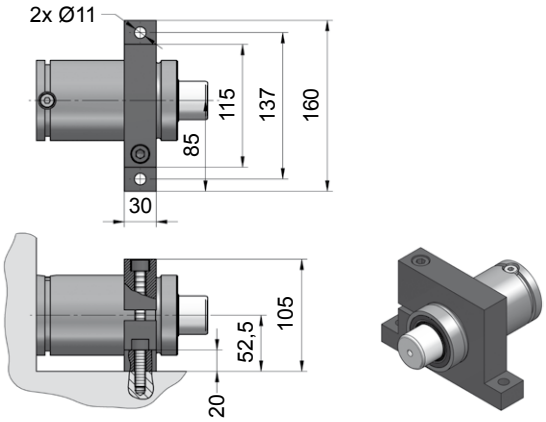
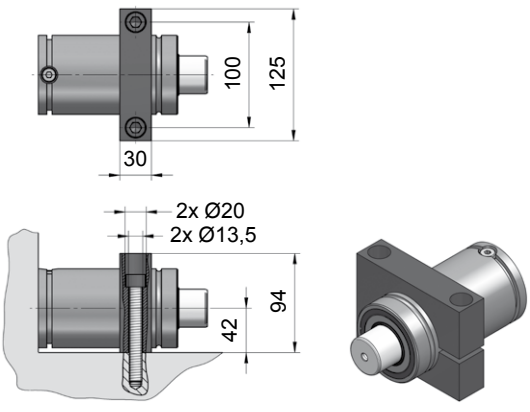


NC.88.00.075.0320



NC.88.00.075.0402



NC.88.00.075.0467

NC.015.00.02400...1

NEU! NEW!

VDI 3003

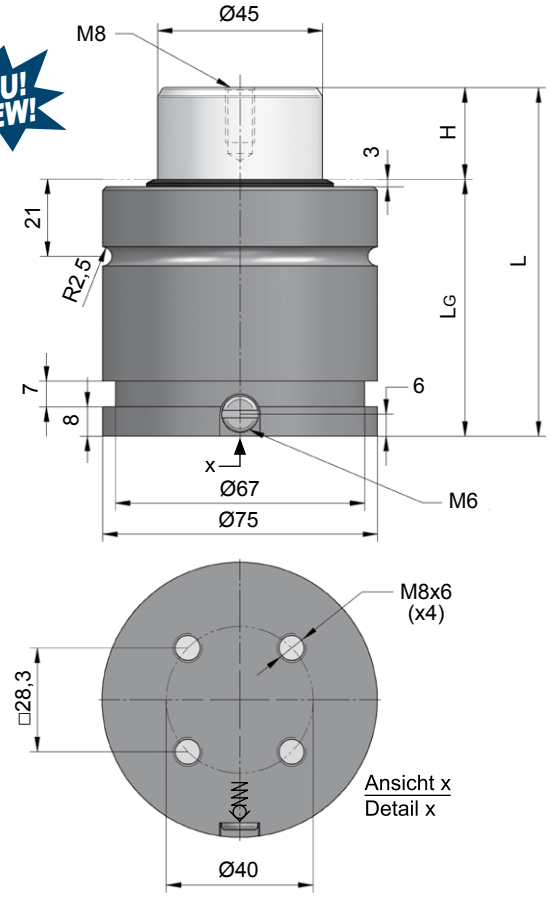
ZUGELASSEN PED 97/23/EG

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

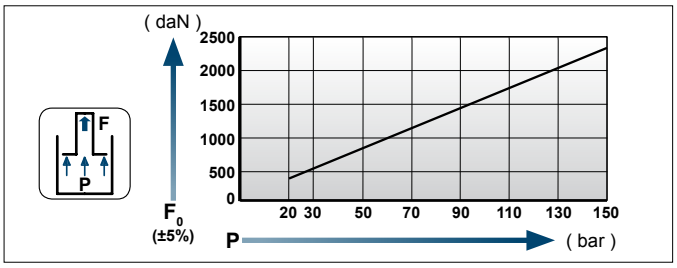
Specifications:

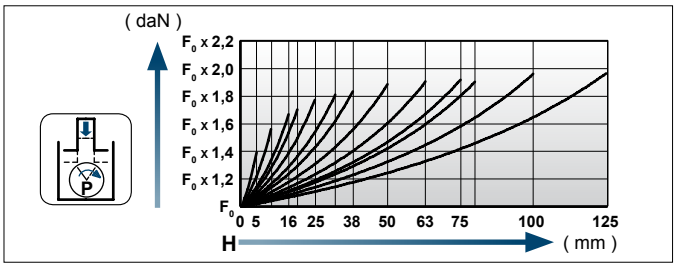
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

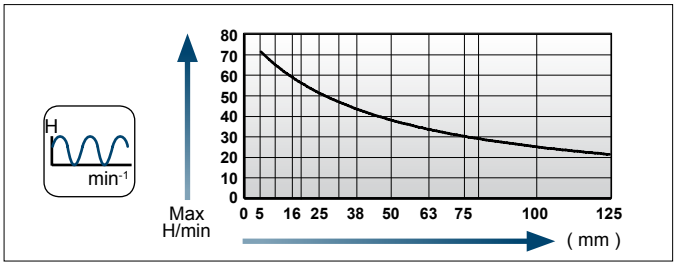


NC.015.00.02400.075.1

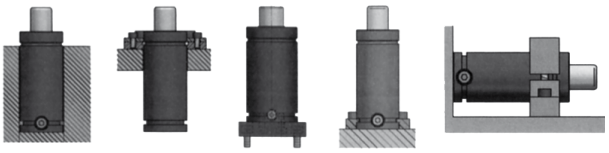
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	65	55	2385	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	77	61	2385	
019	83	64	2385	
025	95	70	2385	
032	109	77	2385	
038	121	83	2385	
050	145	95	2385	
063	171	108	2385	
075	195	120	2385	
080	205	125	2385	
100	245	145	2385	
125	295	170	2385	





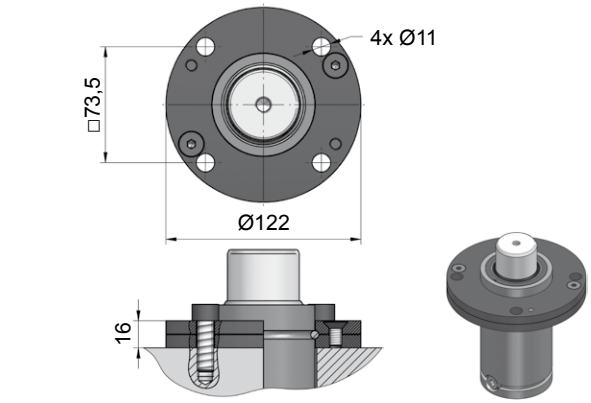


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.015.00.02400…1**



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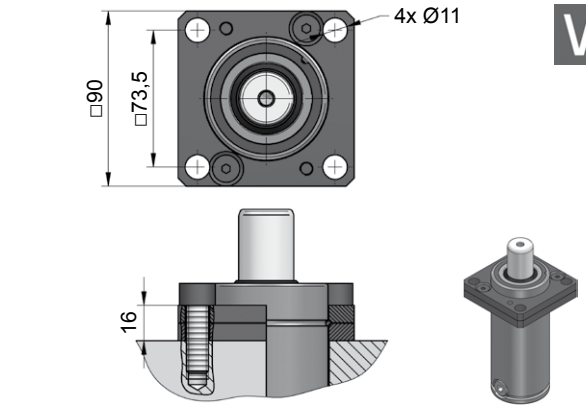

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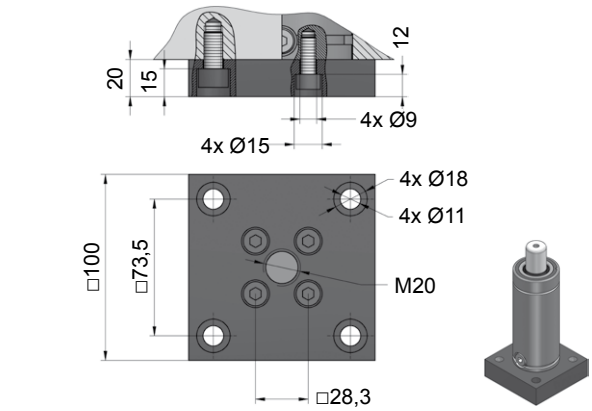

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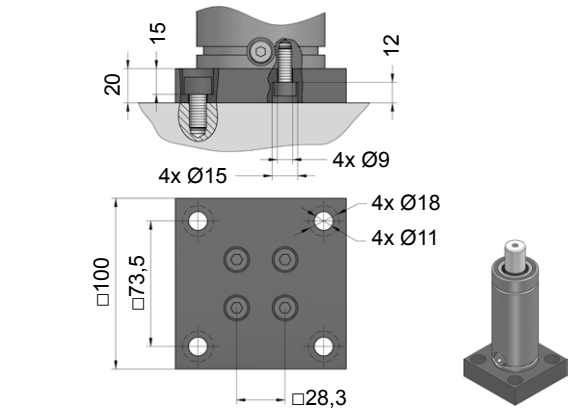

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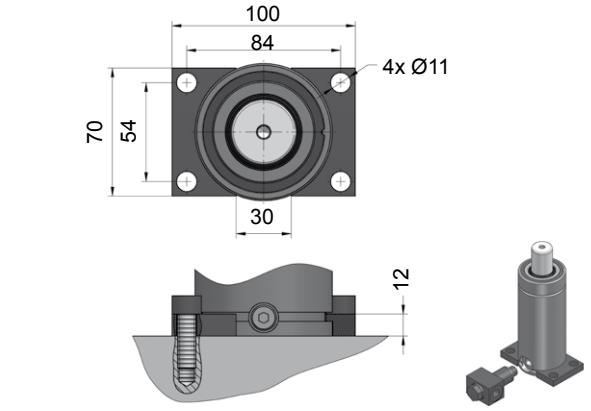

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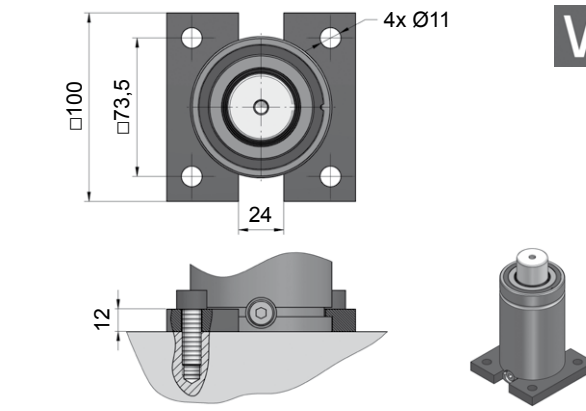
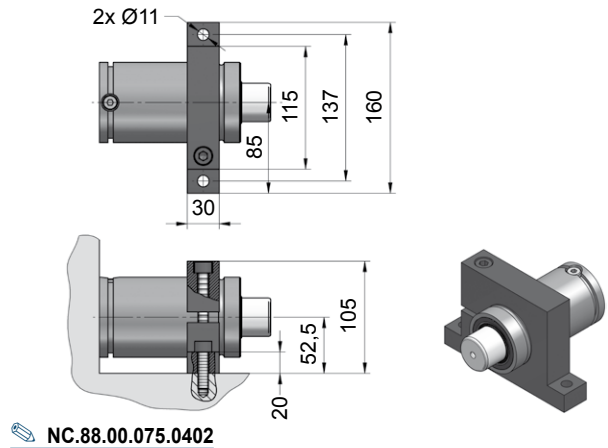


NC.88.00.075.0320



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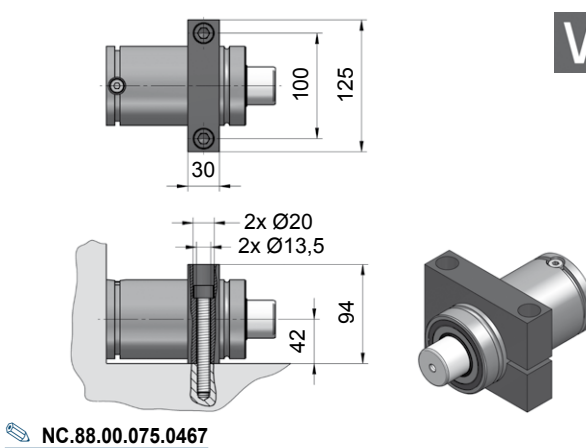


NC.88.00.075.0467

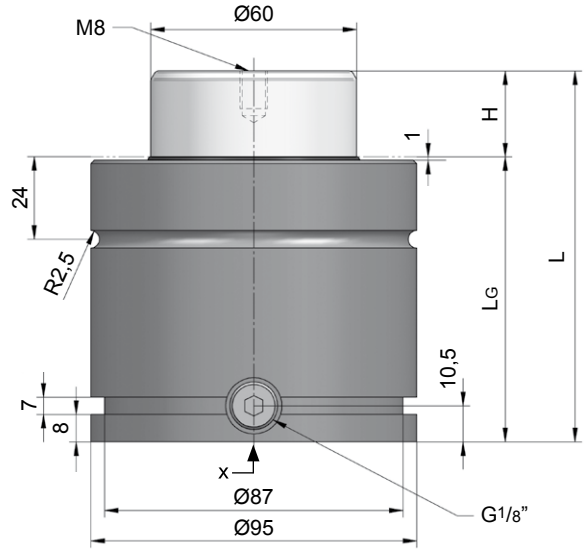
NC.015.00.04200

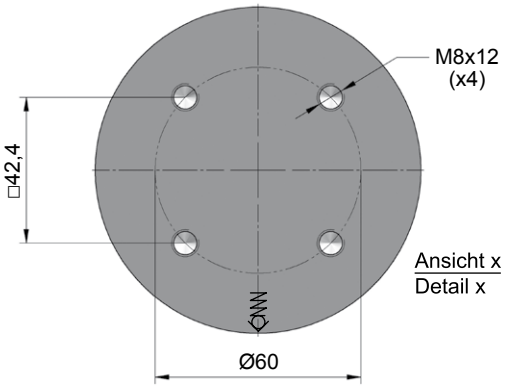
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

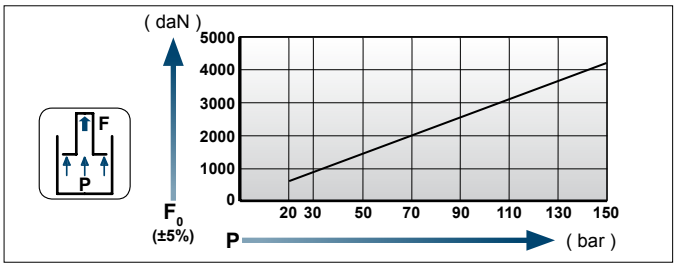
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

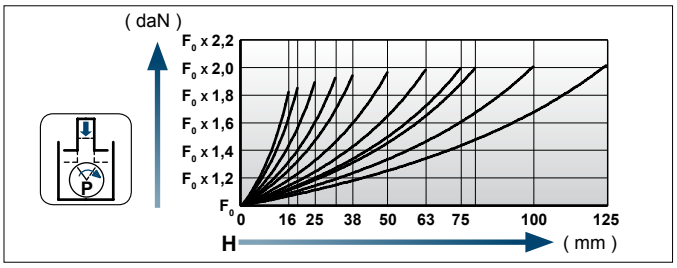


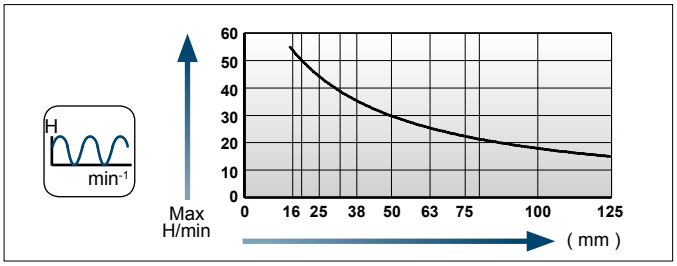


NC.015.00.04200.100

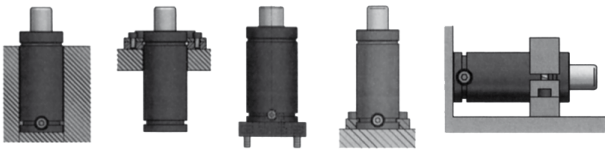
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	 Ende / Final [daN]
016	90	74	4240	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	96	77	4240	
025	108	83	4240	
032	122	90	4240	
038	134	96	4240	
050	158	108	4240	
063	184	121	4240	
075	208	133	4240	
080	218	138	4240	
100	258	158	4240	
125	308	183	4240	



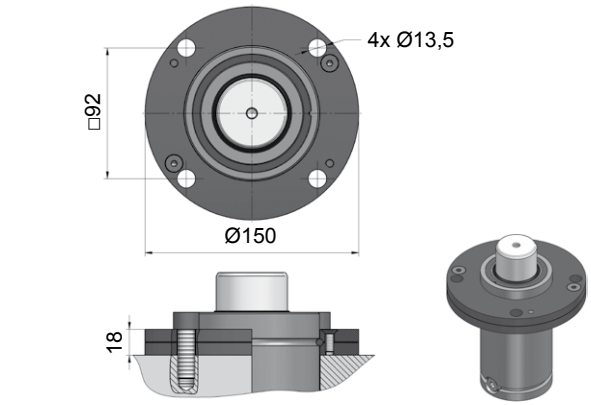




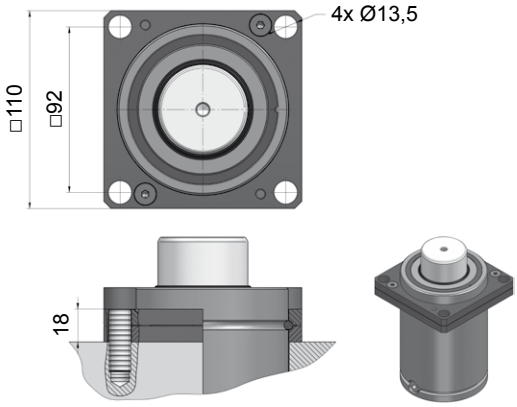
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.015.00.04200**



NC.88.00.095.0114



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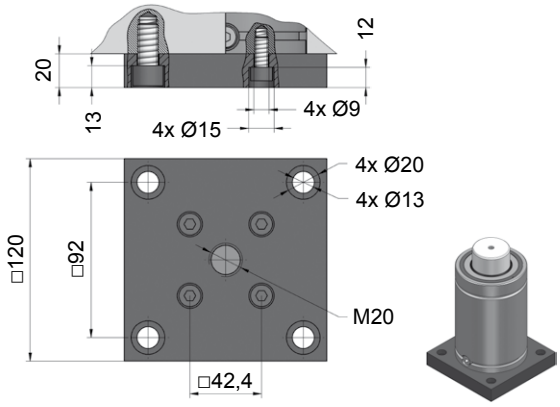

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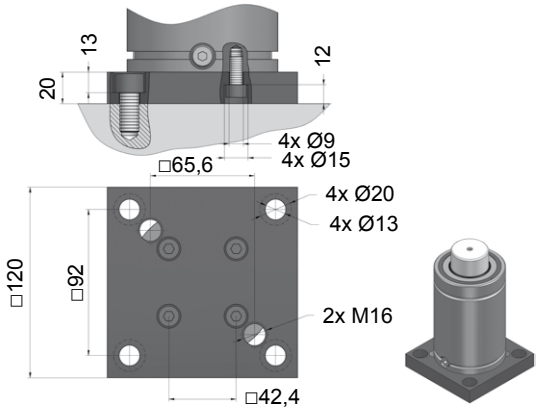

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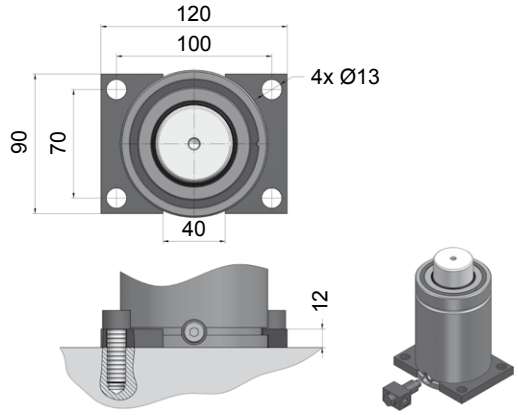

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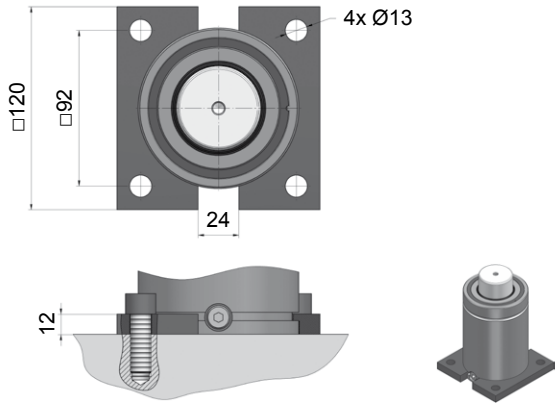

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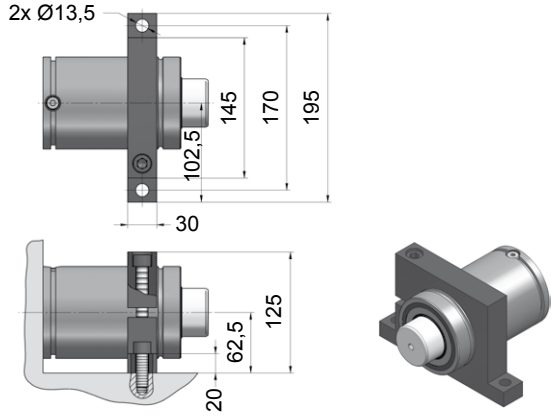
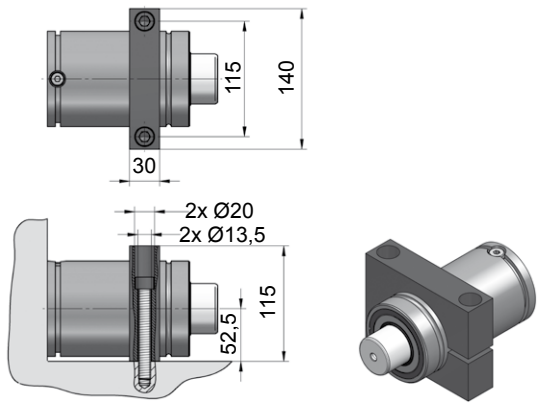


NC.88.00.095.0402



NC.88.00.095.0467

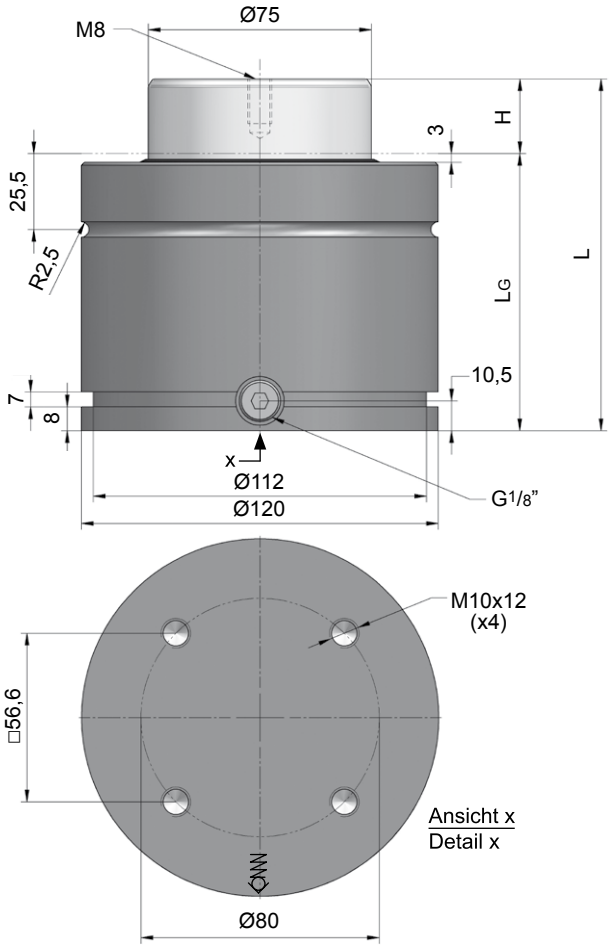
NC.015.00.06600

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

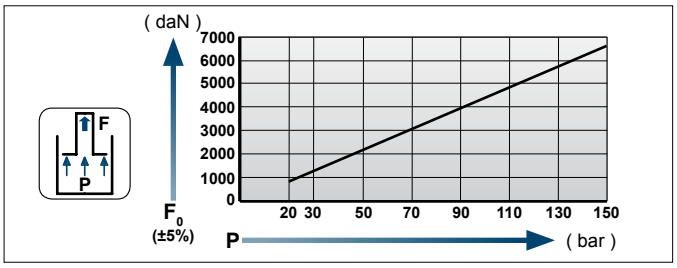
Specifications:

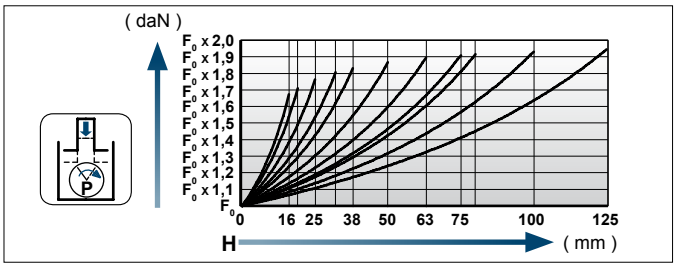
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

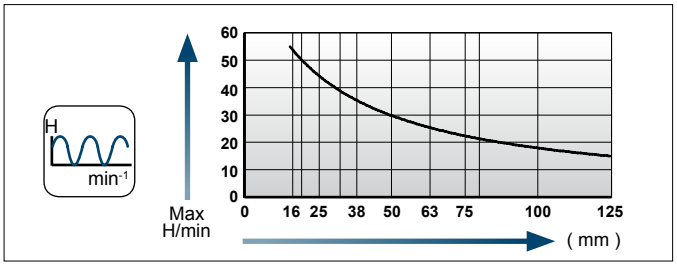


NC.015.00.06600.125

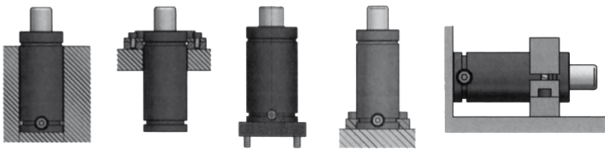
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
016	100	84	6630	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	106	87	6630	
025	118	93	6630	
032	132	100	6630	
038	144	106	6630	
050	168	118	6630	
063	194	131	6630	
075	218	143	6630	
080	228	148	6630	
100	268	168	6630	
125	318	193	6630	







Einbaubeispiele / Flange mounting options



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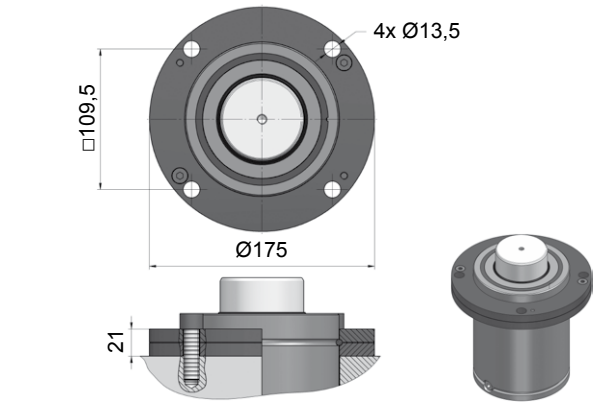
Flansche für / Flanges for **NC.015.00.06600**



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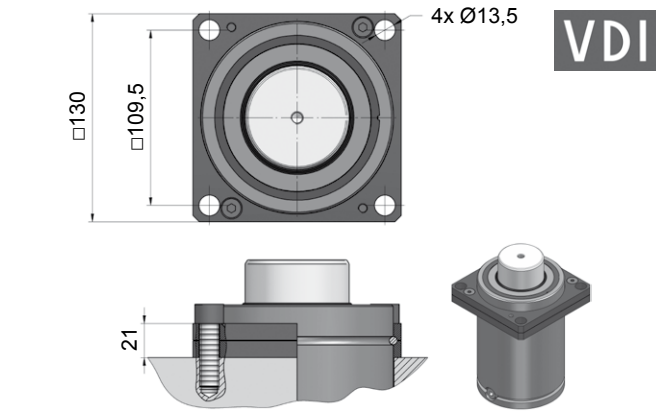

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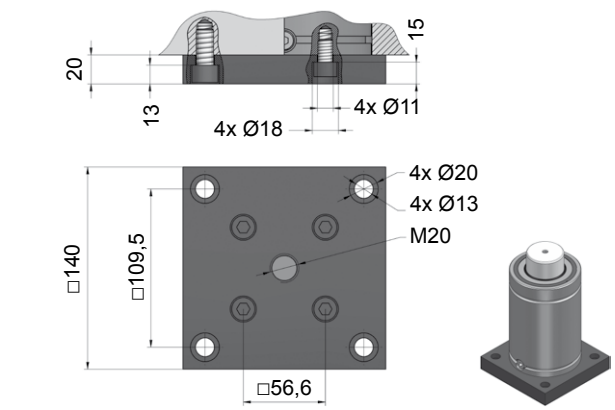

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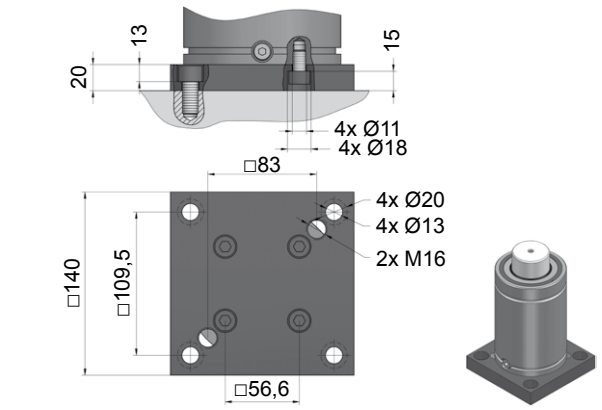

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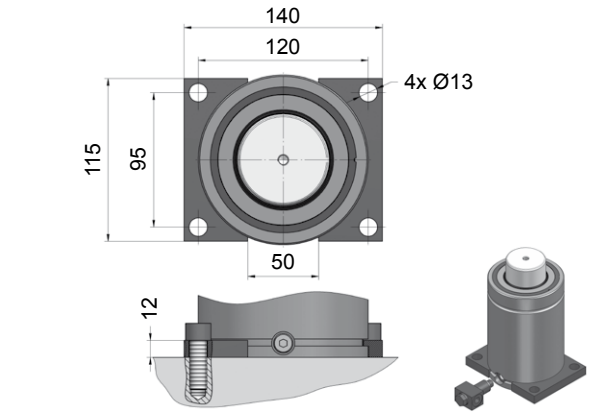

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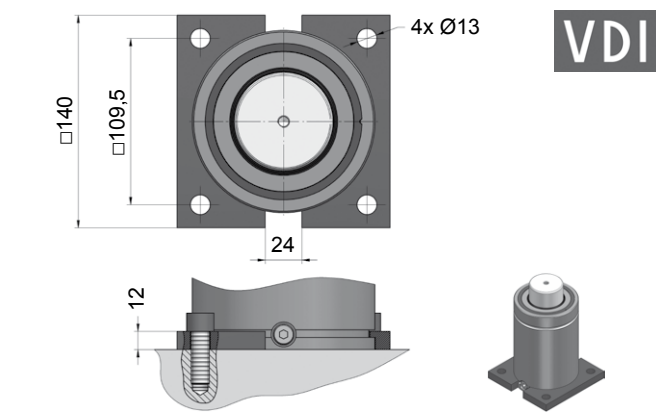
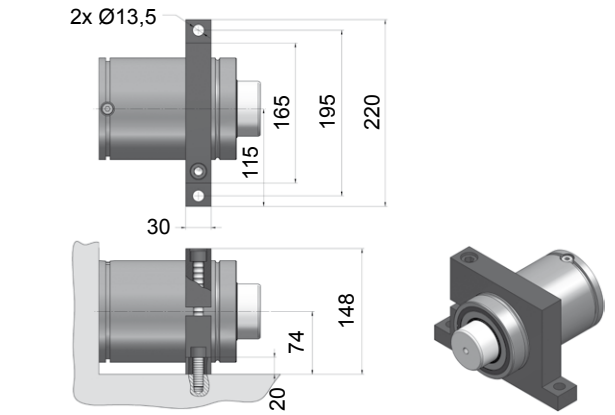


NC.88.00.120.0320



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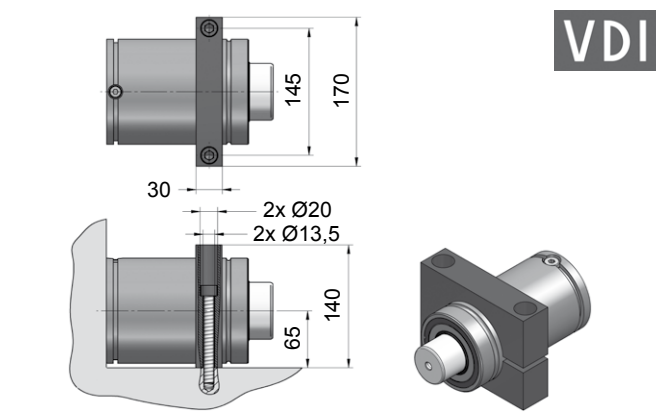


NC.88.00.120.0467

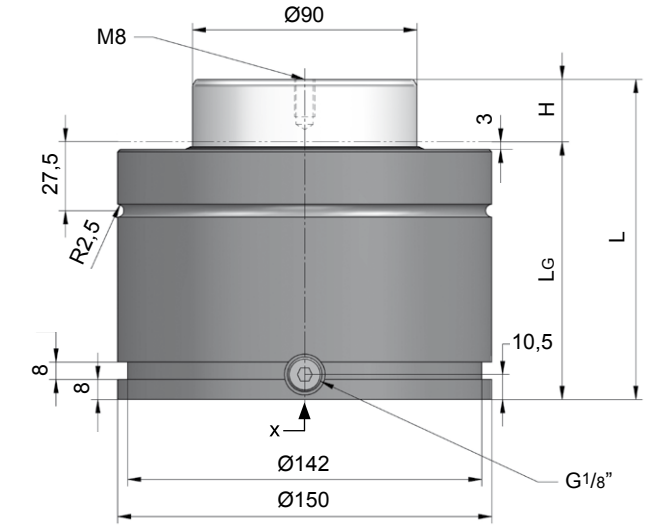
NC.015.00.09500

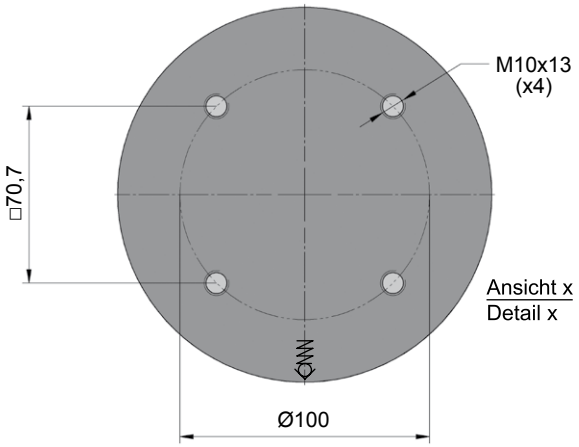
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

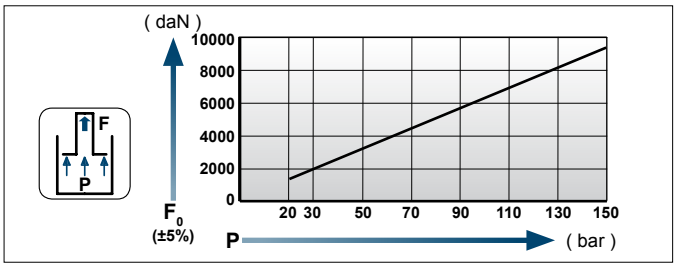
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

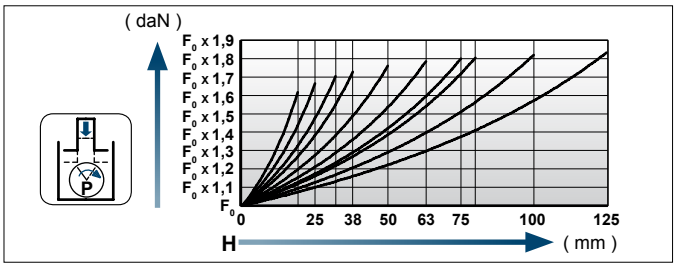


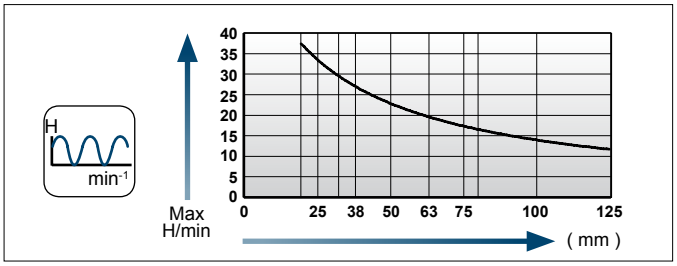


NC.015.00.09500.125

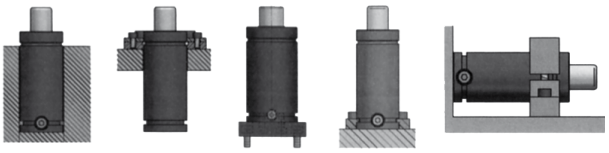
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
019	116	97	9540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	128	103	9540	
032	142	110	9540	
038	154	116	9540	
050	178	128	9540	
063	204	141	9540	
075	228	153	9540	
080	238	158	9540	
100	278	178	9540	
125	328	203	9540	



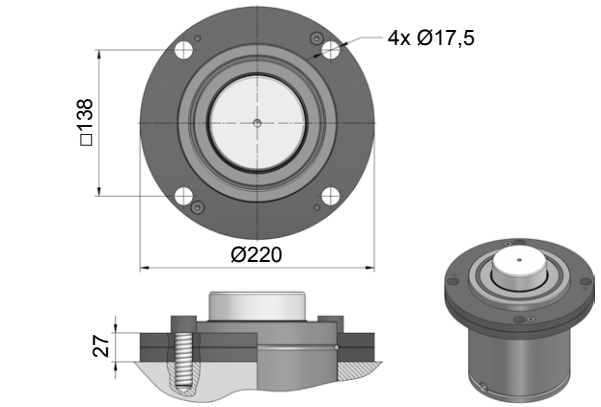




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.015.00.09500**



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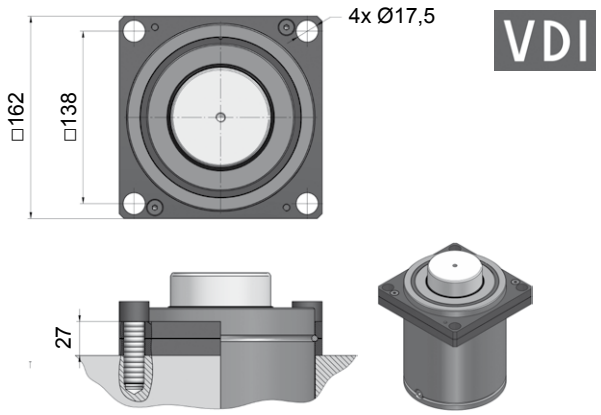

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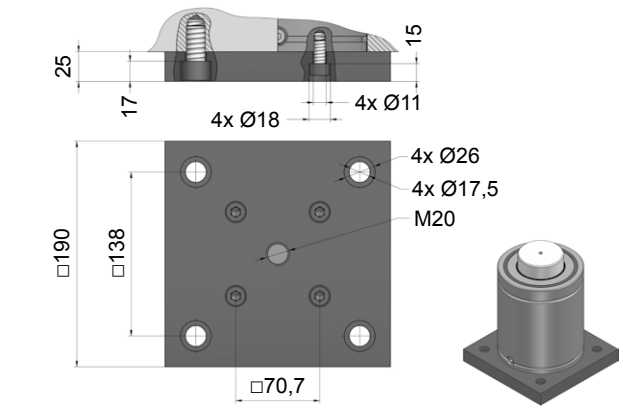

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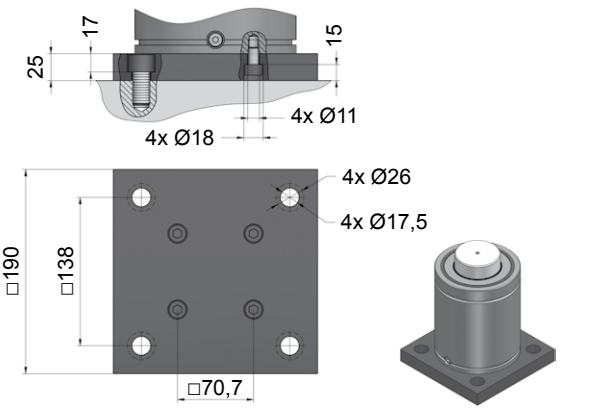

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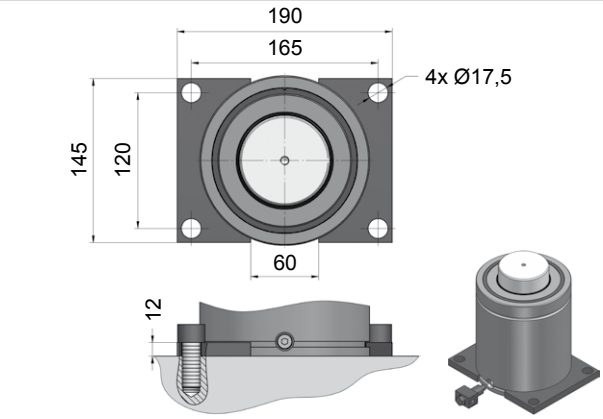

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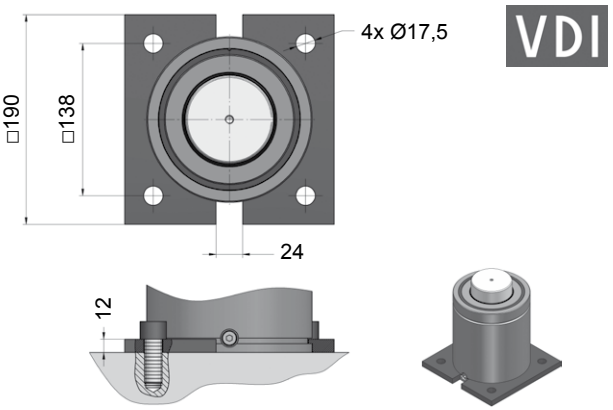
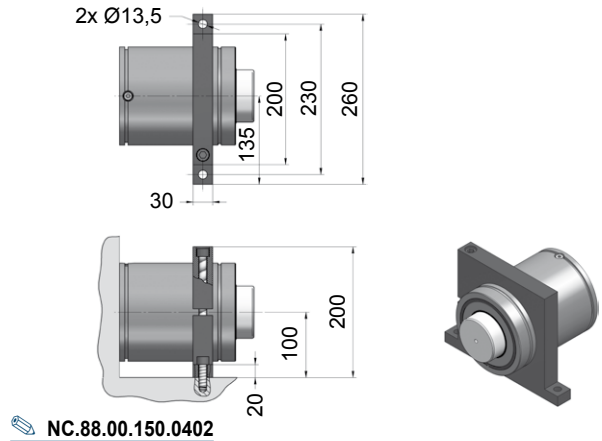
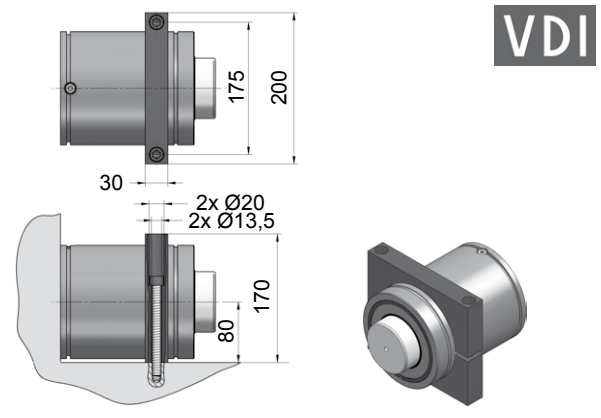


NC.88.00.150.0320



NC.88.00.150.0402



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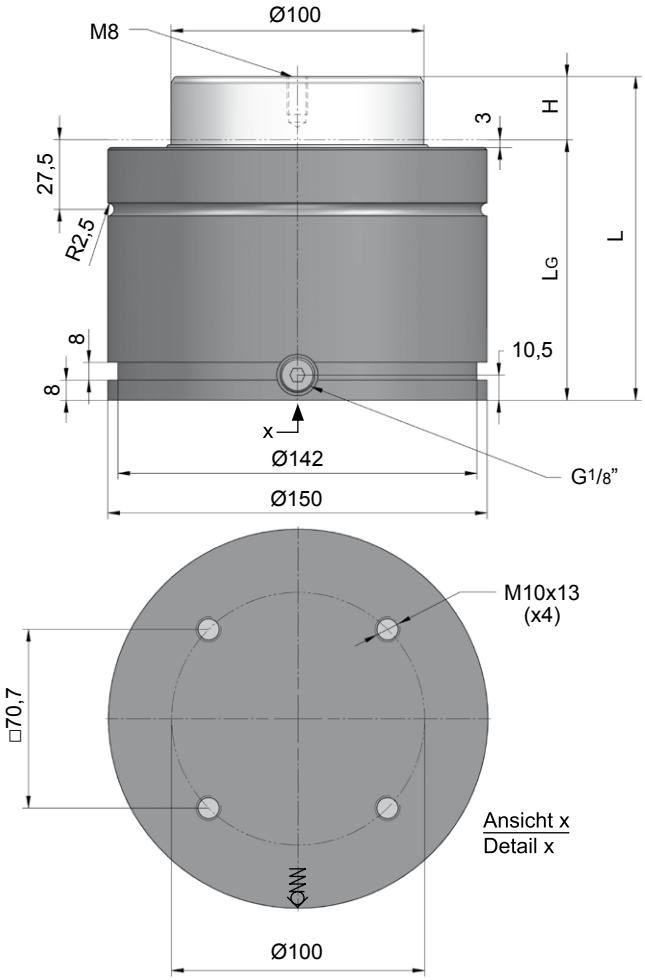
NC.015.00.11800



Technische Daten:

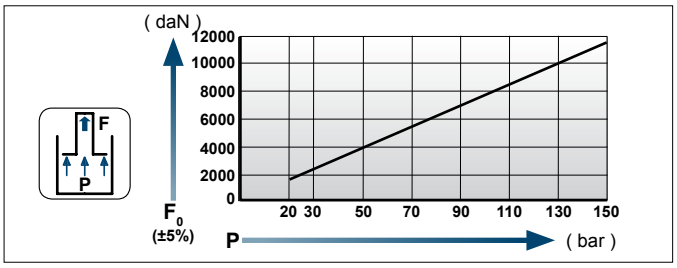
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

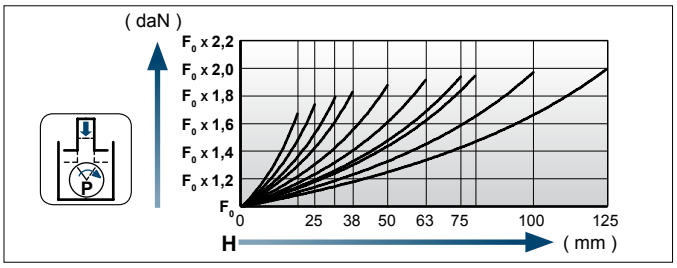
Specifications:

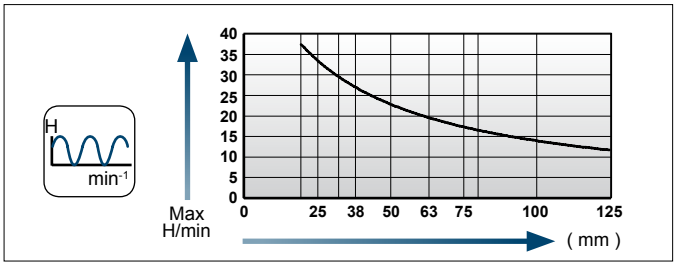
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.015.00.11800.080

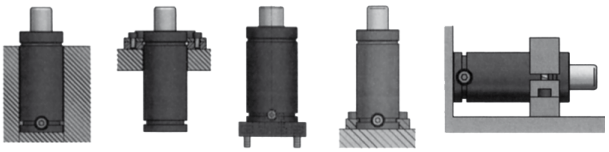
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
019	116	97	11780	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	128	103	11780	
032	142	110	11780	
038	154	116	11780	
050	178	128	11780	
063	204	141	11780	
075	228	153	11780	
080	238	158	11780	
100	278	178	11780	
125	328	203	11780	



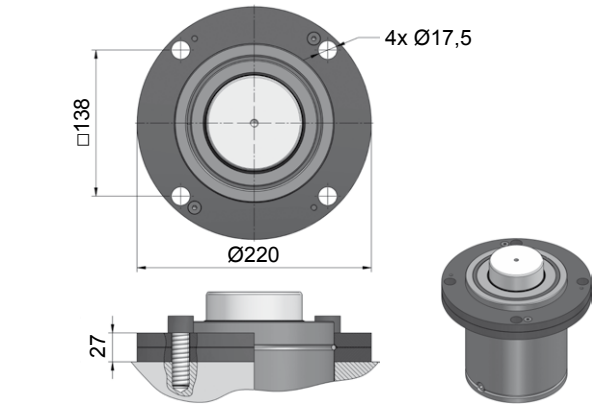




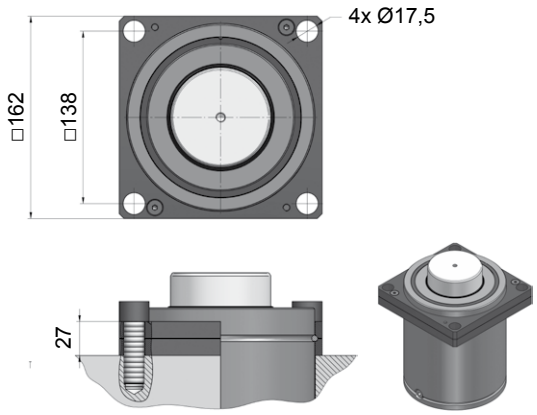
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.015.00.11800**



NC.88.00.150.0114



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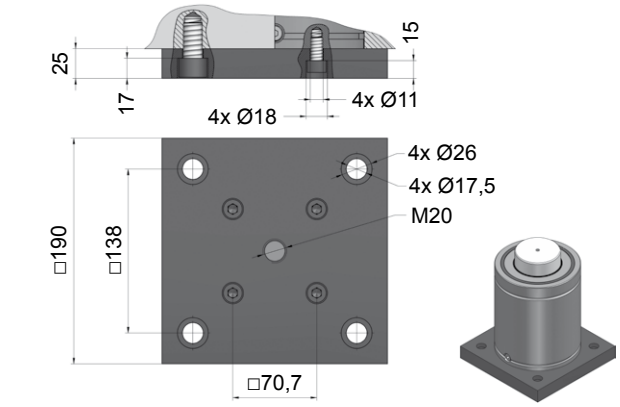
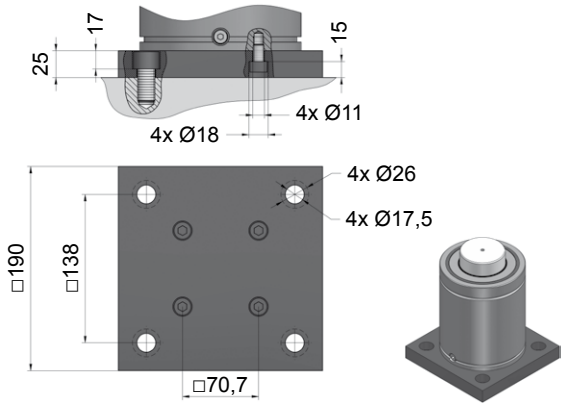
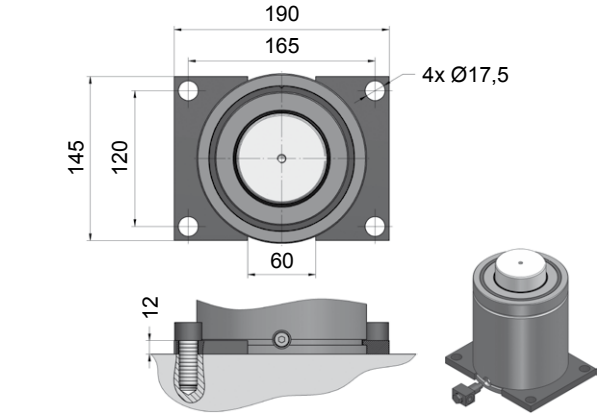


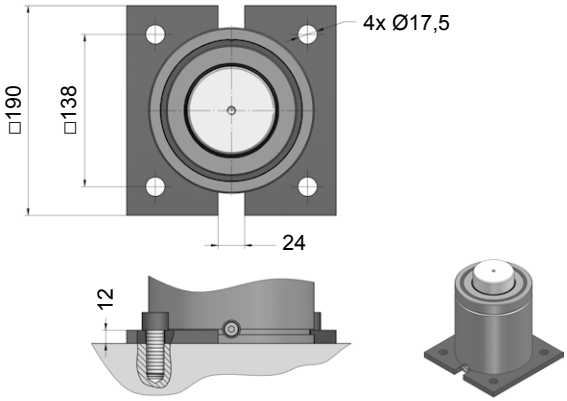
NC.88.00.150.0236



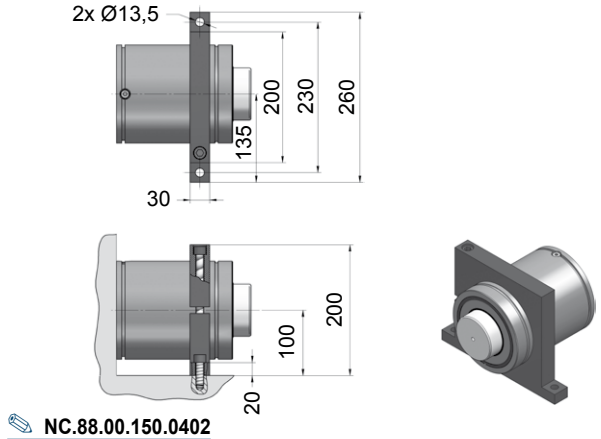
NC.88.00.150.0241



NC.88.00.150.0305



NC.88.00.150.0320



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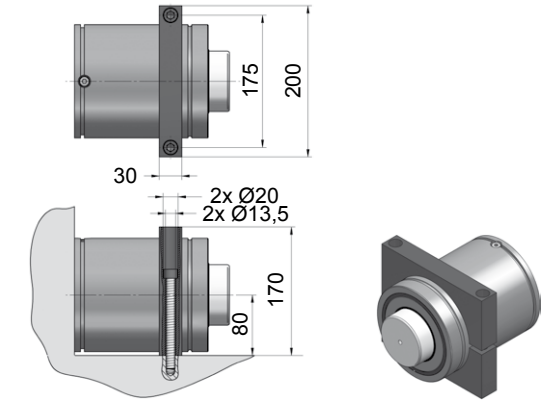


NC.88.00.150.0467

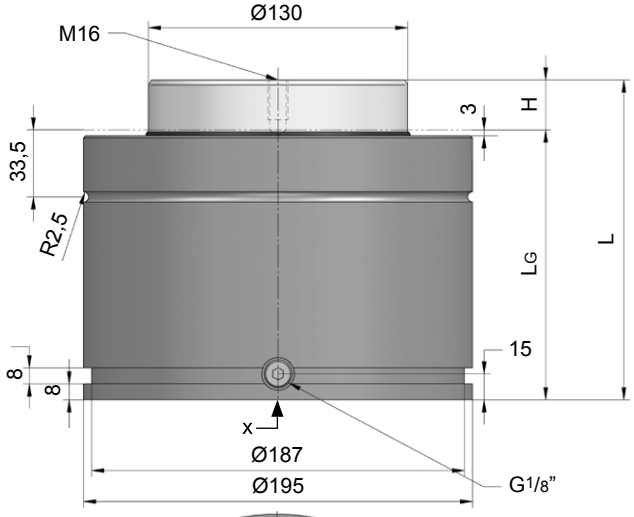
NC.015.00.20000

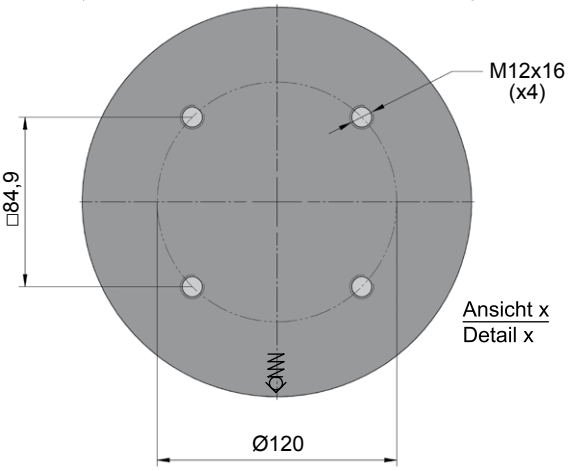
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

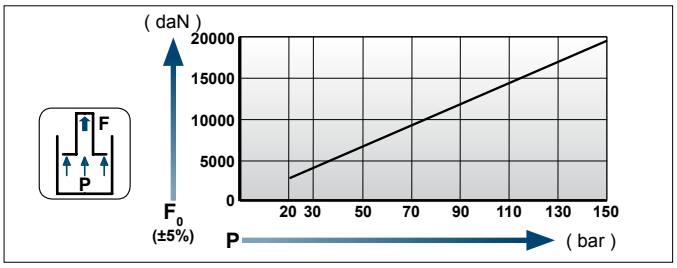
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

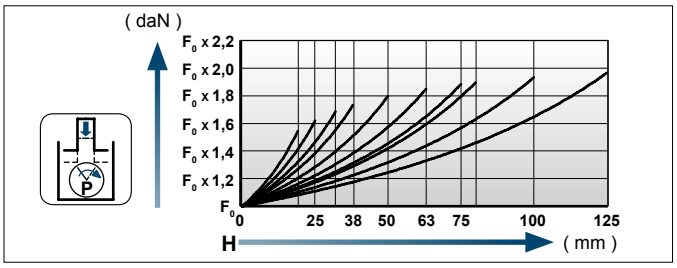


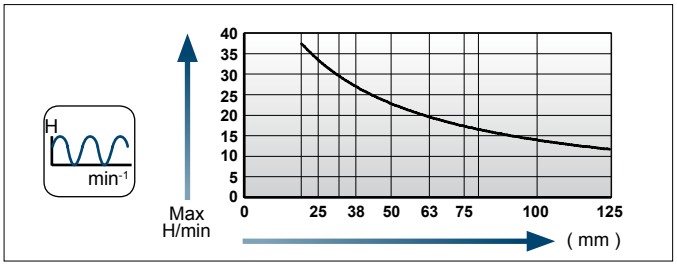


NC.015.00.20000.050

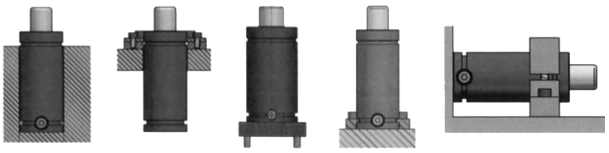
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
019	148	129	19910	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	160	135	19910	
032	174	142	19910	
038	186	148	19910	
050	210	160	19910	
063	236	173	19910	
075	260	185	19910	
080	270	190	19910	
100	310	210	19910	
125	360	235	19910	



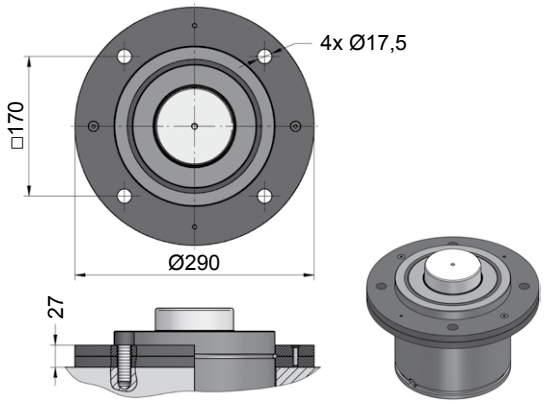




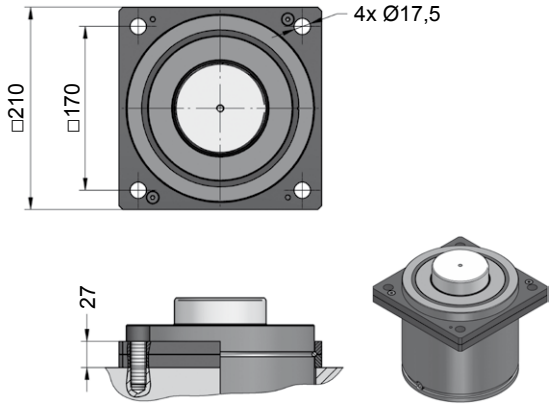
Einbaubeispiele / Flange mounting options



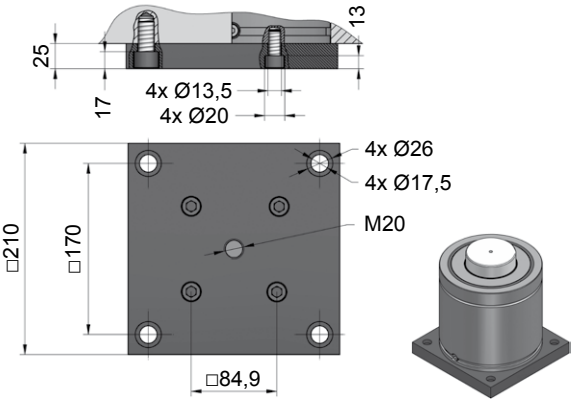
Flansche für / Flanges for **NC.015.00.20000**



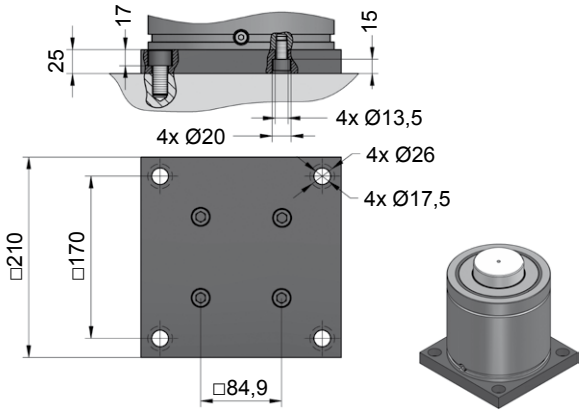
NC.88.00.195.0114



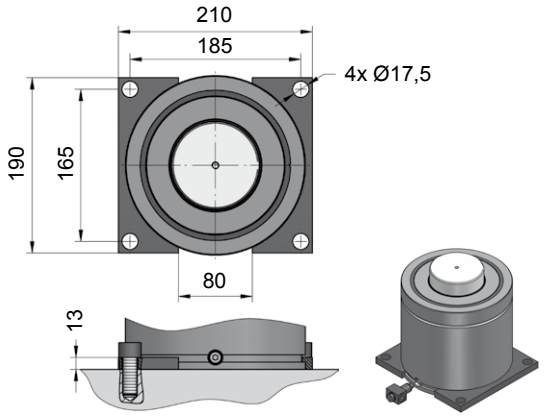
NC.88.00.195.0134



NC.88.00.195.0236



NC.88.00.195.0241



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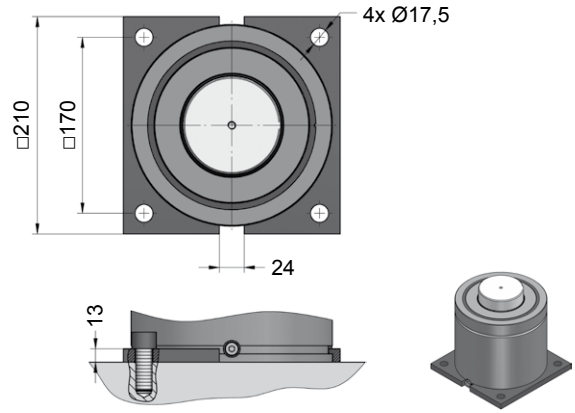

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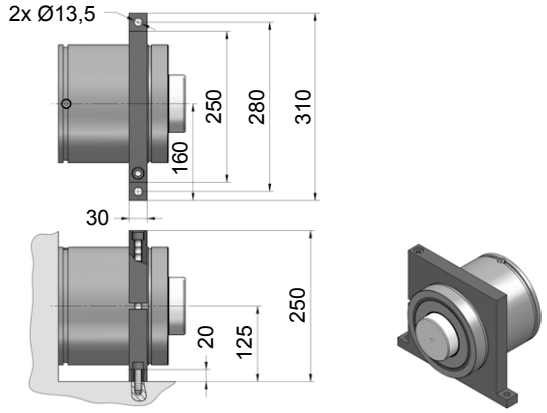
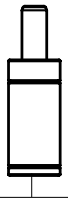


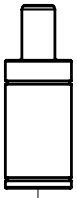
NC.88.00.195.0402

Größenübersicht Serie NC.016.00

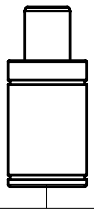
Gas spring index NC.016.00 series



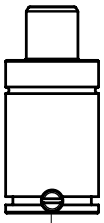
NC.016.00.00200
190 daN
5 - 100 mm
Ø25



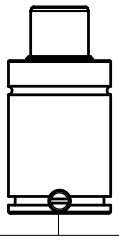
NC.016.00.00300
300 daN
7 - 100 mm
Ø32



NC.016.00.00570
570 daN
5 - 125 mm
Ø38



NC.016.00.00750
740 daN
12 - 100 mm
Ø45

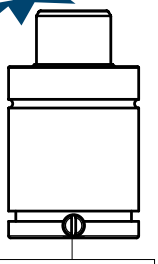


NC.016.00.01000
985 daN
12 - 100 mm
Ø50

NEU!
NEW!

auslaufend /
phasing out

NC.016.00.01500
1530 daN
12 - 100 mm
Ø63



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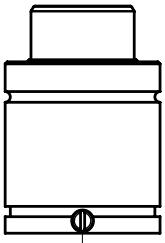
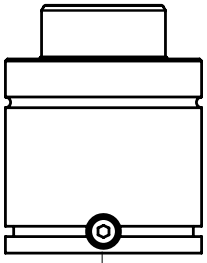
1530 daN
12 - 100 mm
Ø63



NC.016.00.02500
2545 daN
12 - 100 mm
Ø75



NC.016.00.04000
3960 daN
25 - 100 mm
Ø95

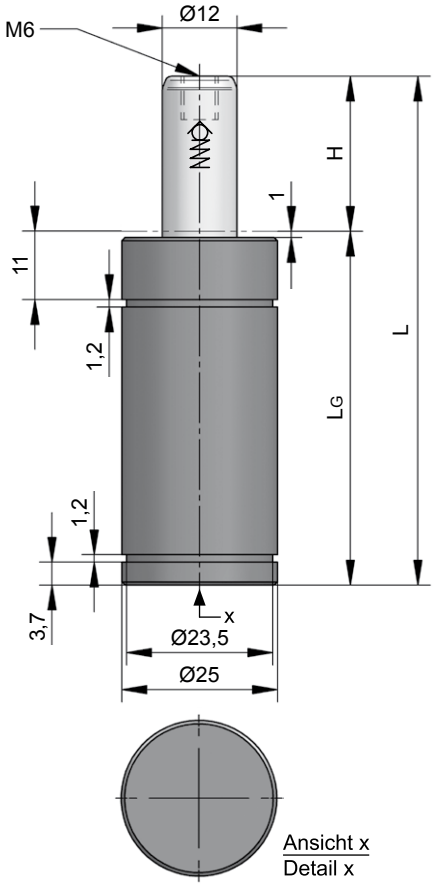
NC.016.00.00200

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s



NC.016.00.00200.007

H Hub / Stroke	L ±0,25	LG	Kraft / Force (170 bar) Anfang / Initial [daN]	Ende / Final [daN]
005	42	37	190	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
007	46	39	190	
010	52	42	190	
012	56	44	190	
016	64	48	190	
019	70	51	190	
025	82	57	190	
032	96	64	190	
038	108	70	190	
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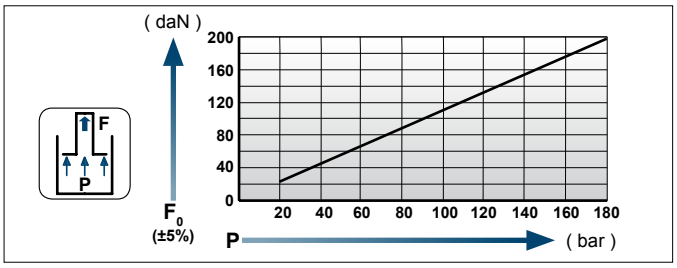
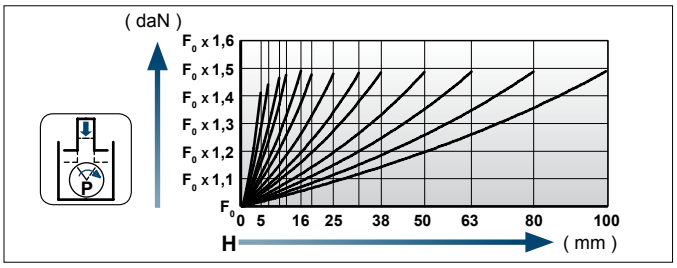
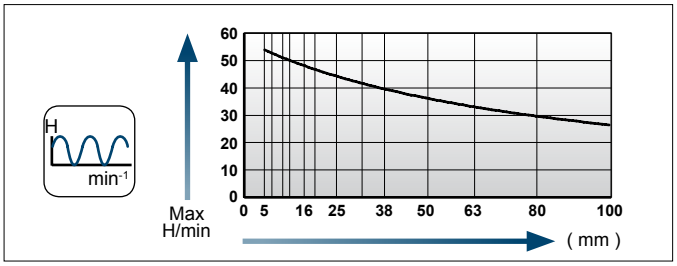
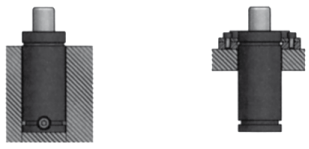
063	158	95	190	
080	192	112	190	
100	232	132	190	





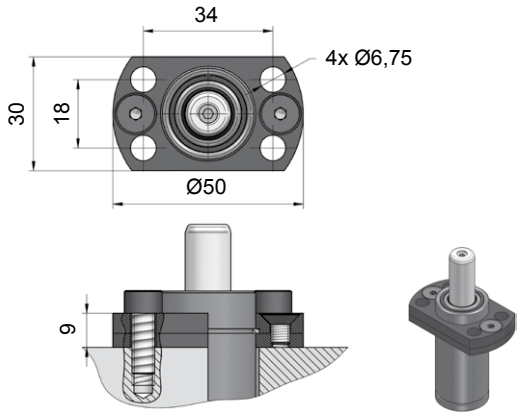


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.016.00.00200**



NC.88.00.025.0174

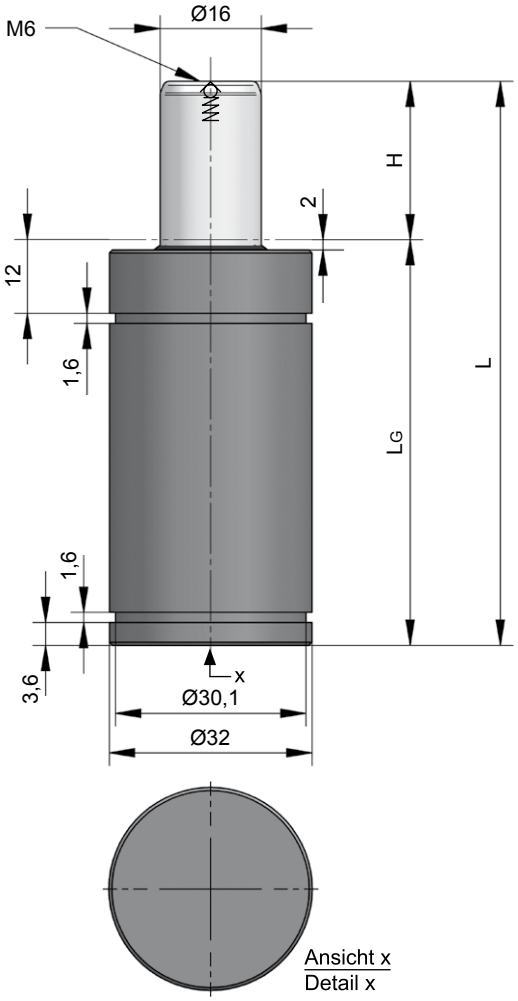
NC.016.00.00300

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

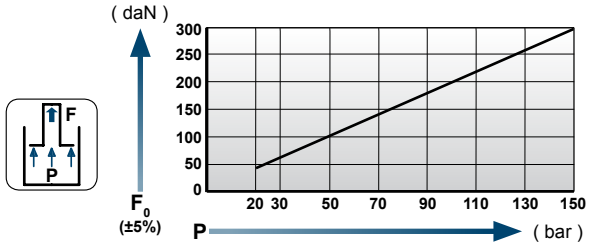
Specifications:

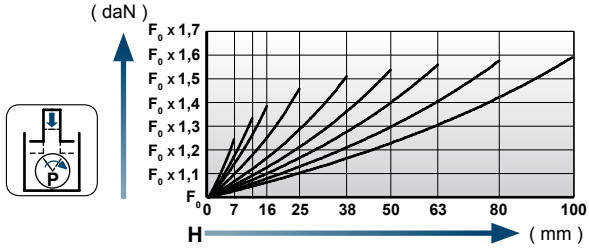
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

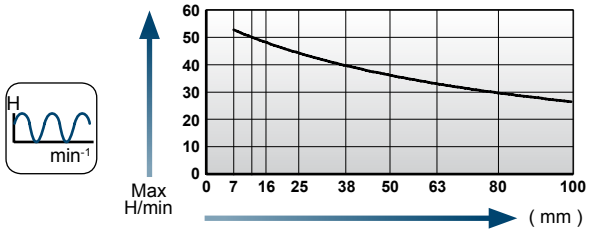


NC.016.00.00300.025

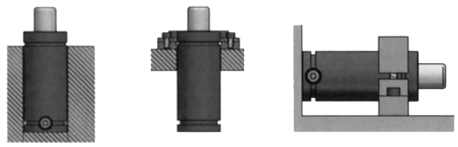
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
007	53	46	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012	63	51	300	
016	71	55	300	
025	89	64	300	
038	115	77	300	
050	139	89	300	
063	165	102	300	
080	199	119	300	
100	239	139	300	



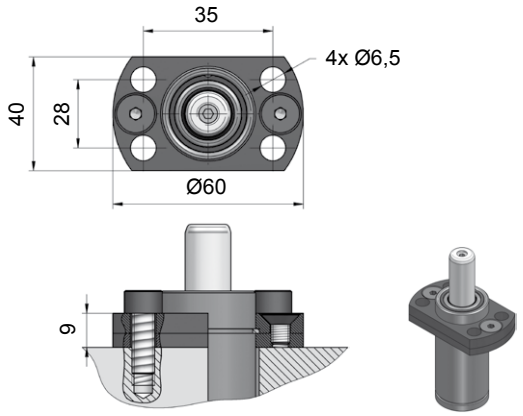




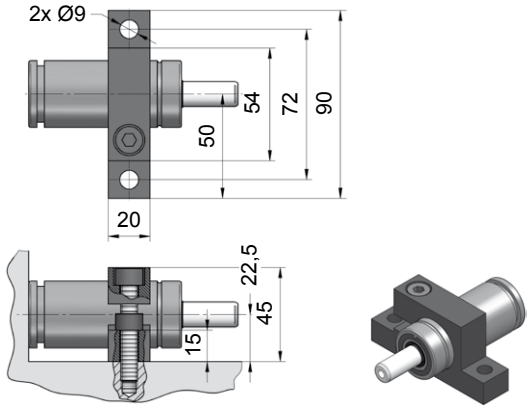
Einbaubeispiele / Flange mounting options



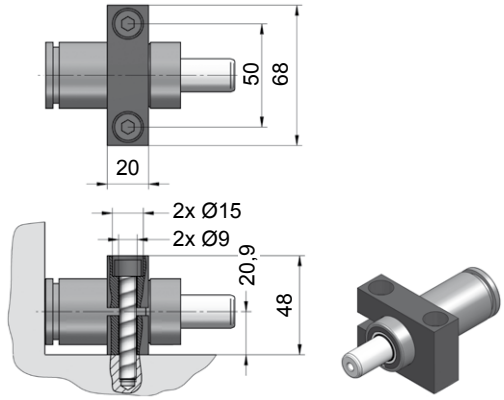
Flansche für / Flanges for **NC.016.01.00300**



NC.88.00.032.0174



NC.88.00.032.0402



NC.88.00.032.0467

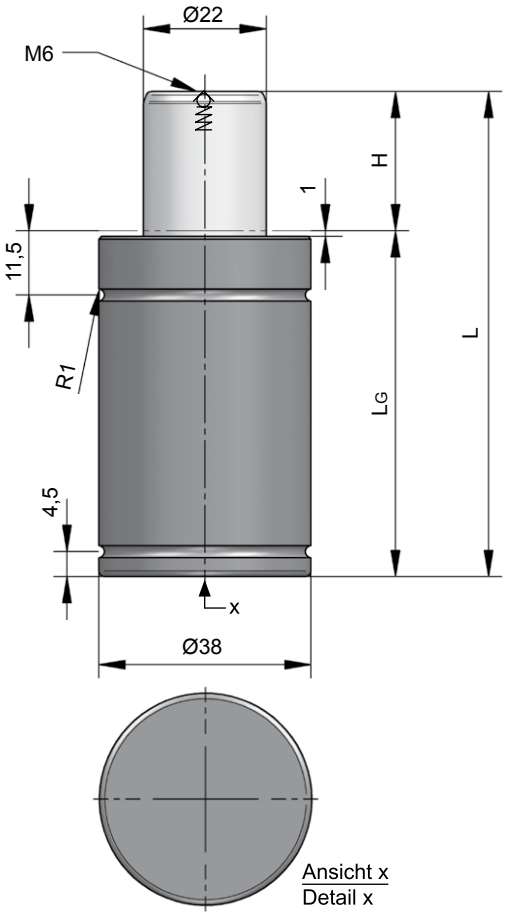
NC.016.00.00570

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

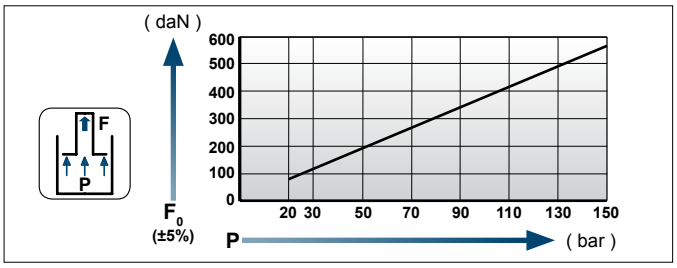
Specifications:

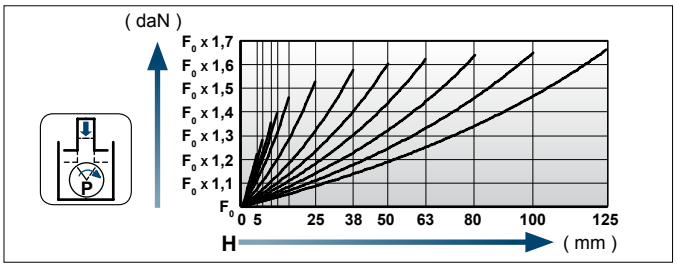
Pressure medium:	N_2
Max. charging pressure:	150 bar
Min. charging pressure:	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

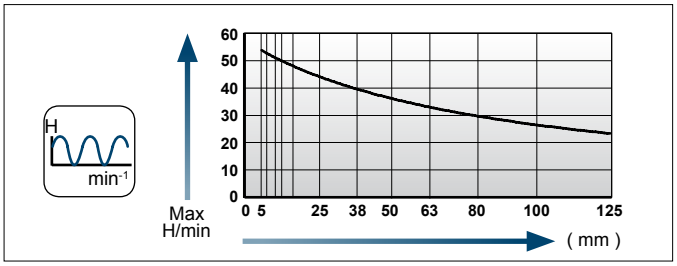


NC.016.00. 00570.038

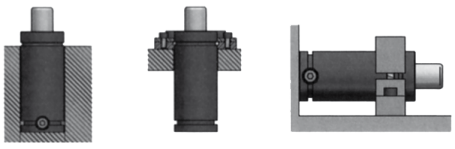
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
005	47	42	570	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
007	51	44	570	
010	57	47	570	
012	61	49	570	
016	69	53	570	
025	87	62	570	
038	113	75	570	
050	137	87	570	
063	163	100	570	
080	197	117	570	
100	237	137	570	
125	287	162	570	



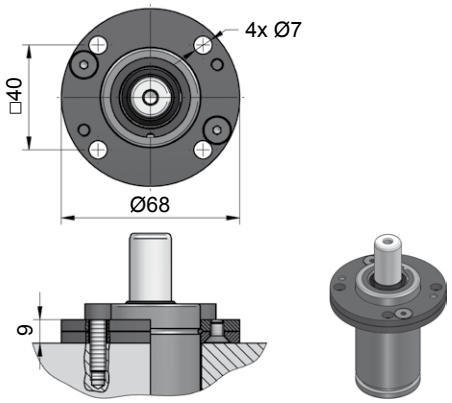




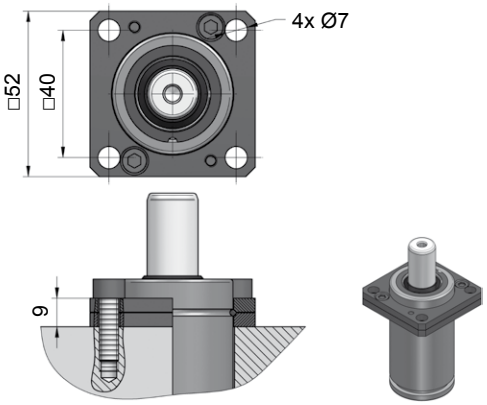
Einbaubeispiele / Flange mounting options



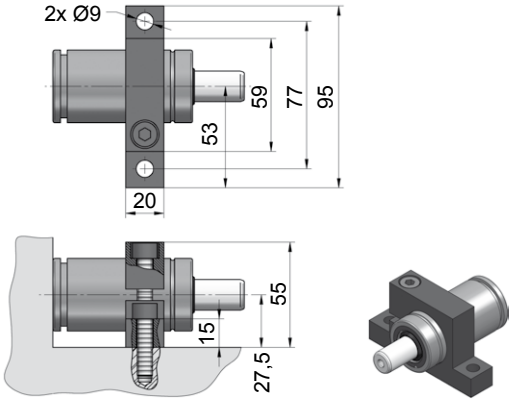
Flansche für / Flanges for **NC.016.00.00570**



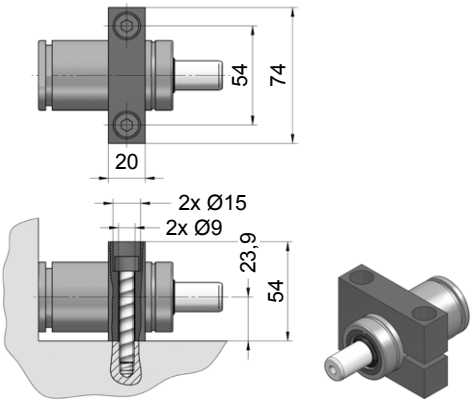
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0402



NC.88.00.038.0467

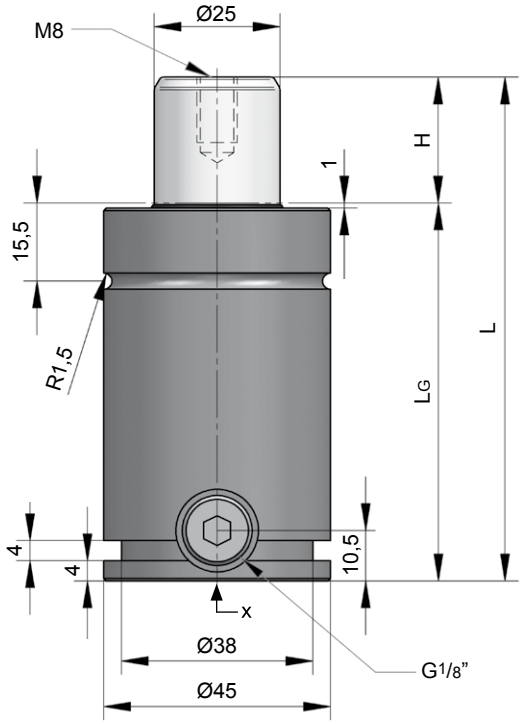
NC.016.00.00750

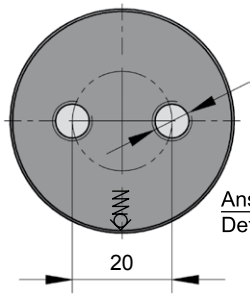
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

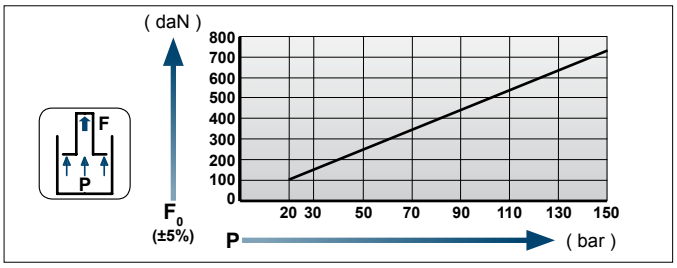
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

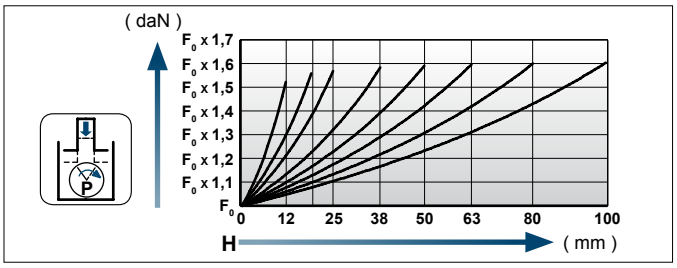


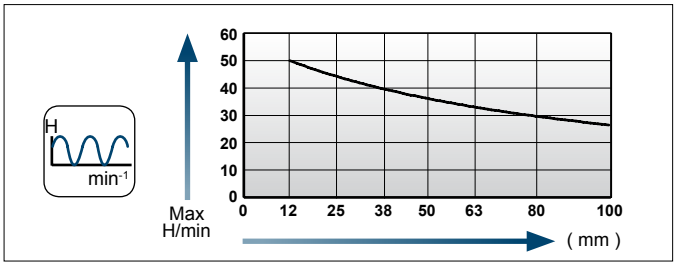


NC.016.00.00750.025

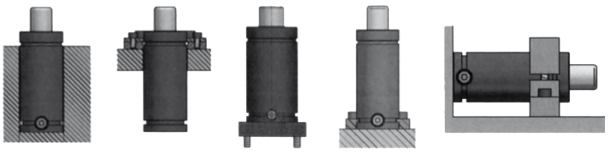
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	74	62	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	88	69	740	
025	100	75	740	
038	126	88	740	
050	150	100	740	
063	176	113	740	
080	210	130	740	
100	250	150	740	



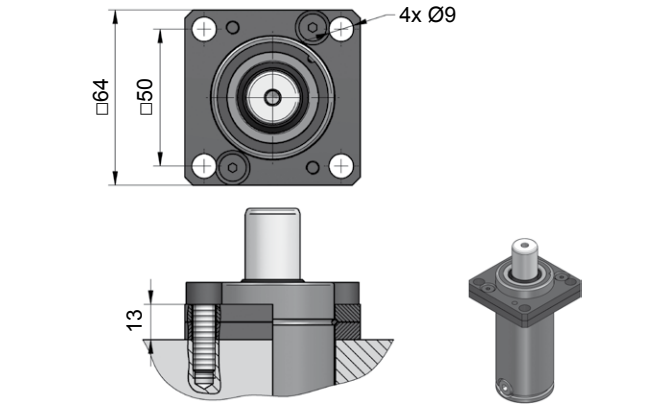




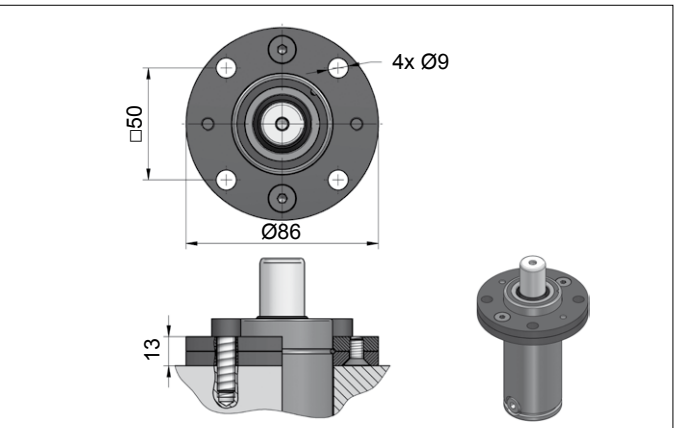
Einbaubeispiele / Flange mounting options



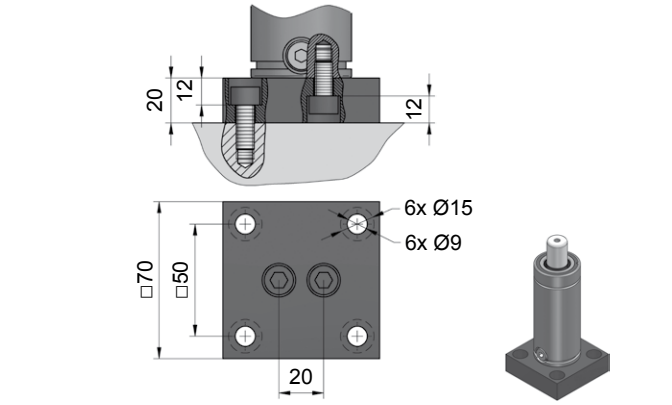
Flansche für / Flanges for **NC.016.00.00750**



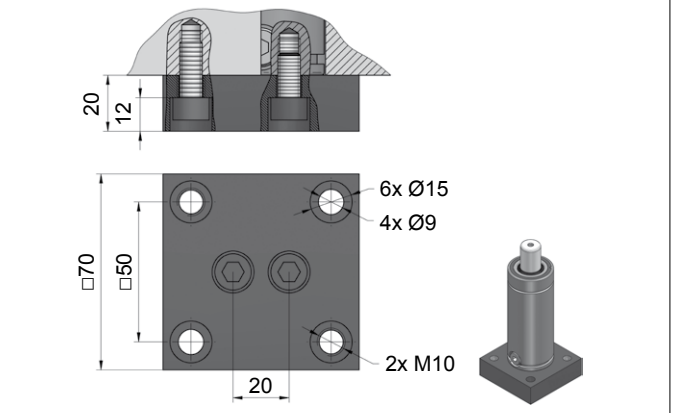
NC.88.00.045.0169



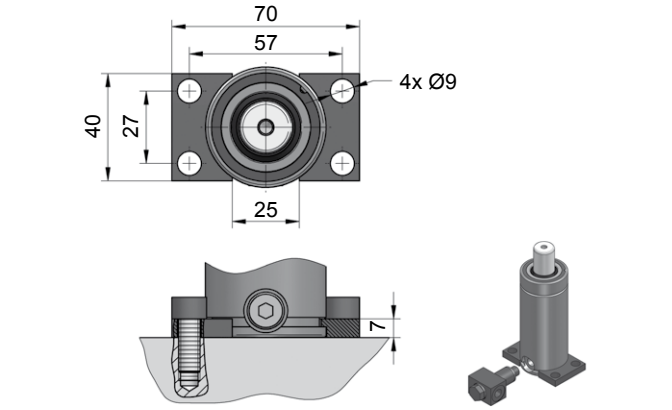
NC.88.00.045.0174



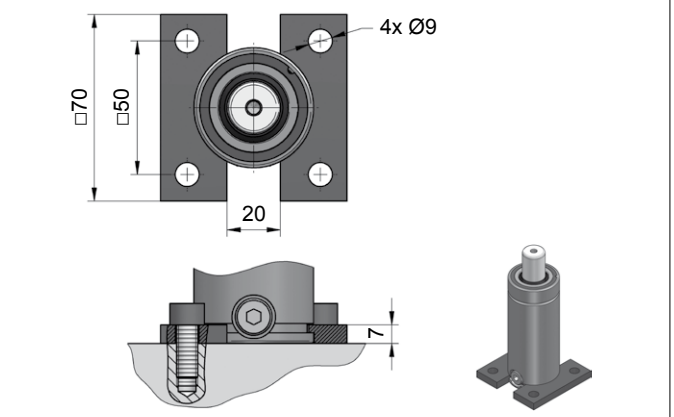
NC.88.00.045.0221



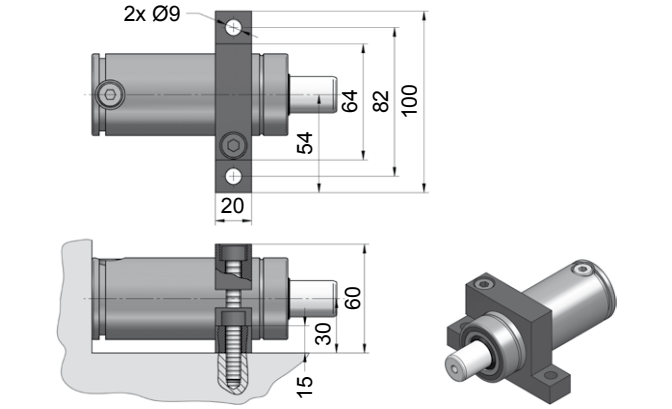
NC.88.00.045.0276



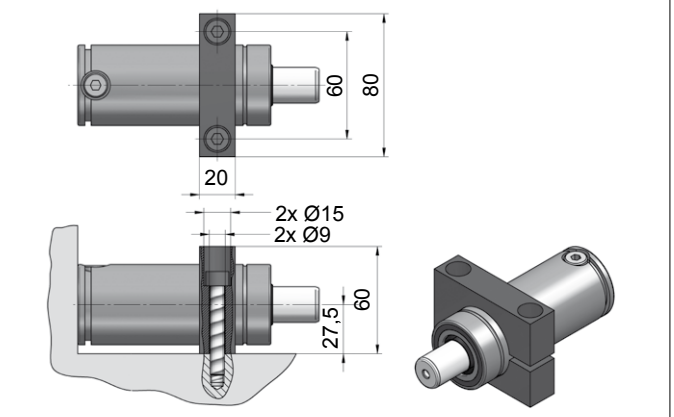
NC.88.00.045.0305



NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

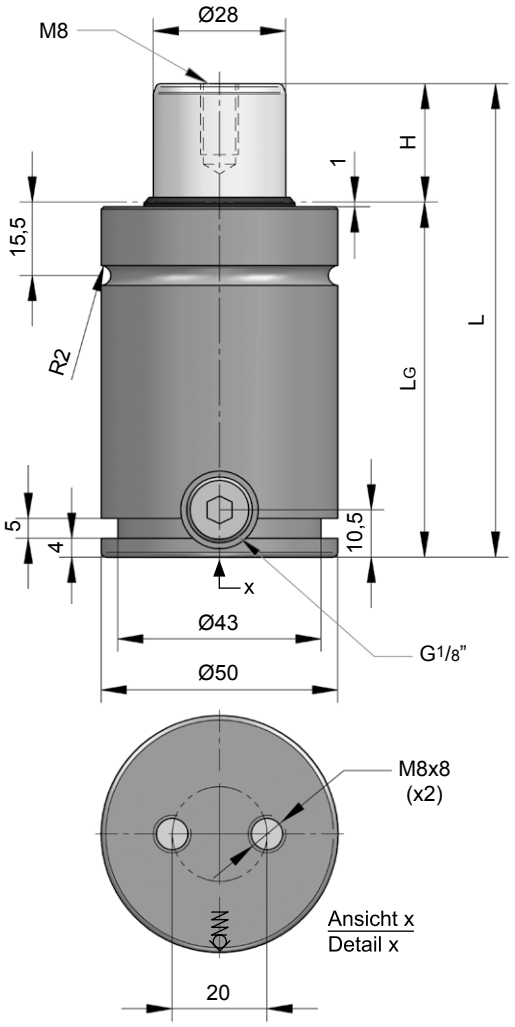
NC.016.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

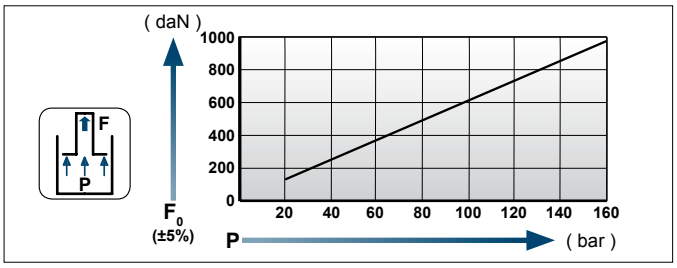
Specifications:

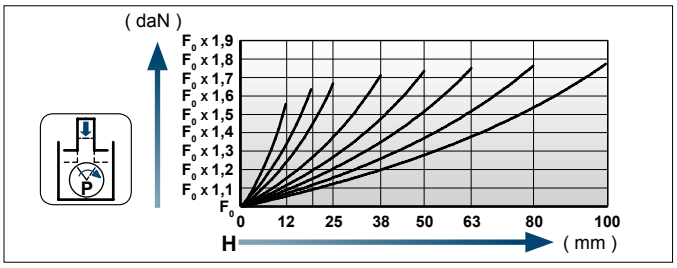
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

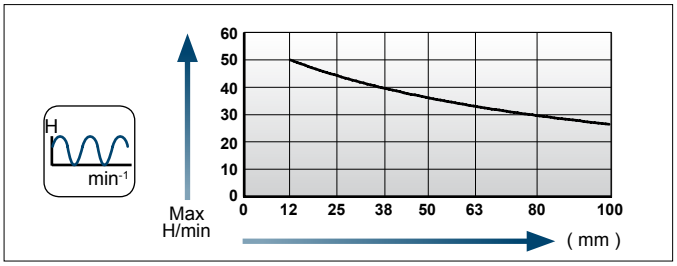


NC.016.00.01000.063

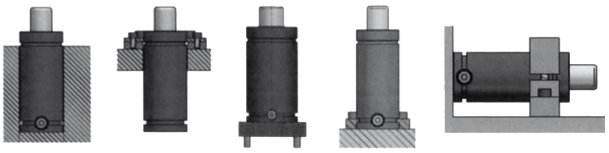
H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	74	62	985	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
019	88	69	985	
025	100	75	985	
038	126	88	985	
050	150	100	985	
063	176	113	985	
080	210	130	985	
100	250	150	985	



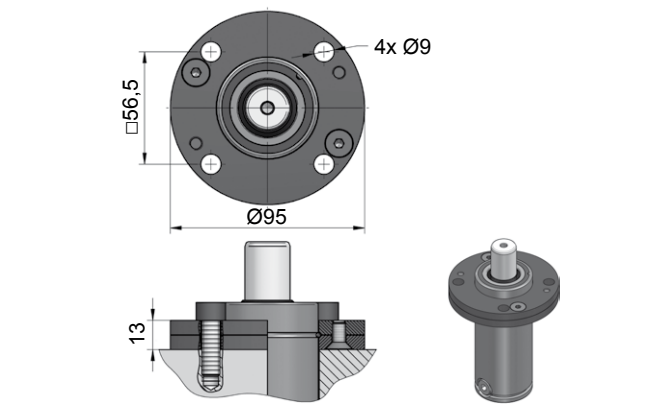




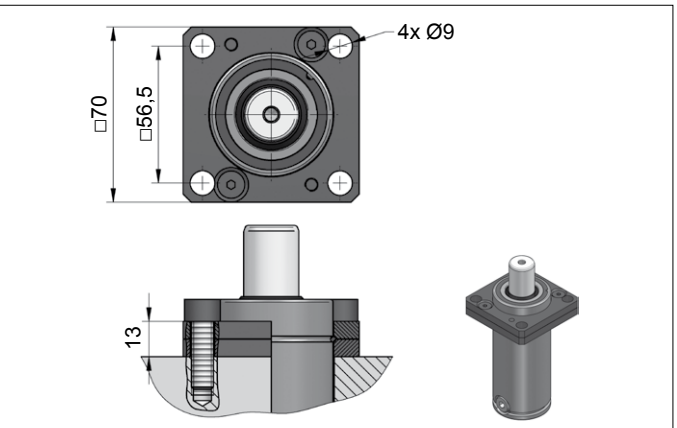
Einbaubeispiele / Flange mounting options



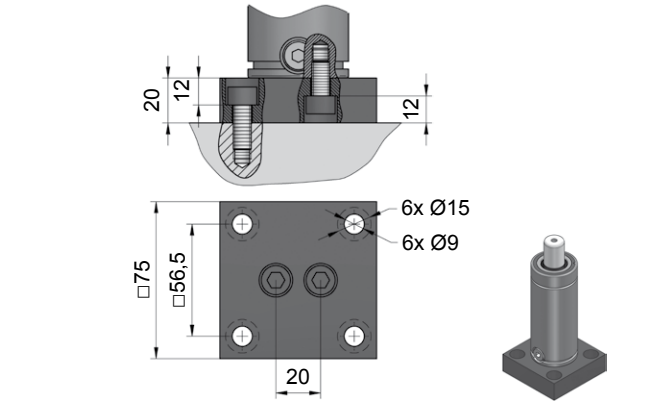
Flansche für / Flanges for **NC.016.00.01000**



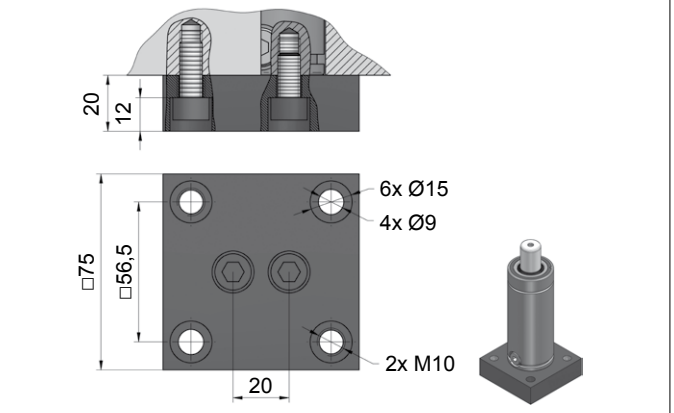
NC.88.00.050.0114



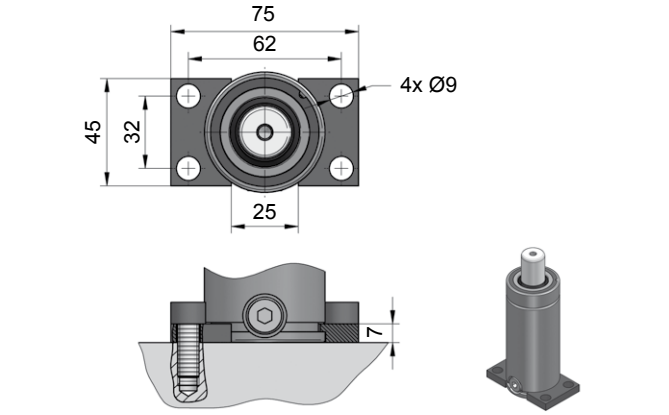
NC.88.00.050.0134



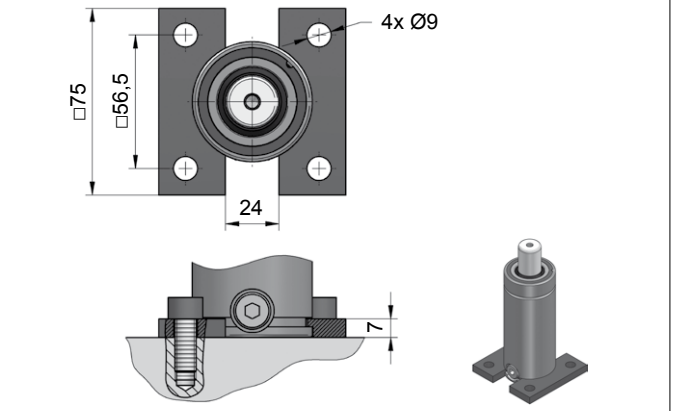
NC.88.00.050.0221



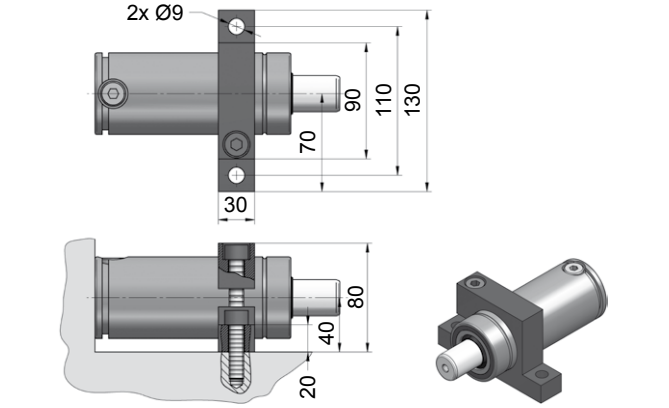
NC.88.00.050.0276



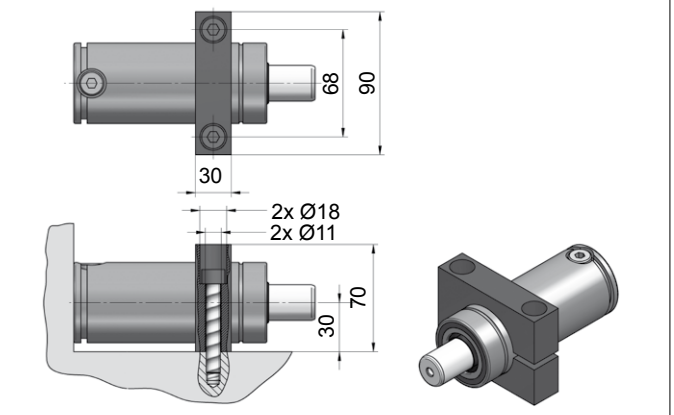
NC.88.00.050.0335



NC.88.00.050.0350



NC.88.00.050.0402



NC.88.00.050.0467

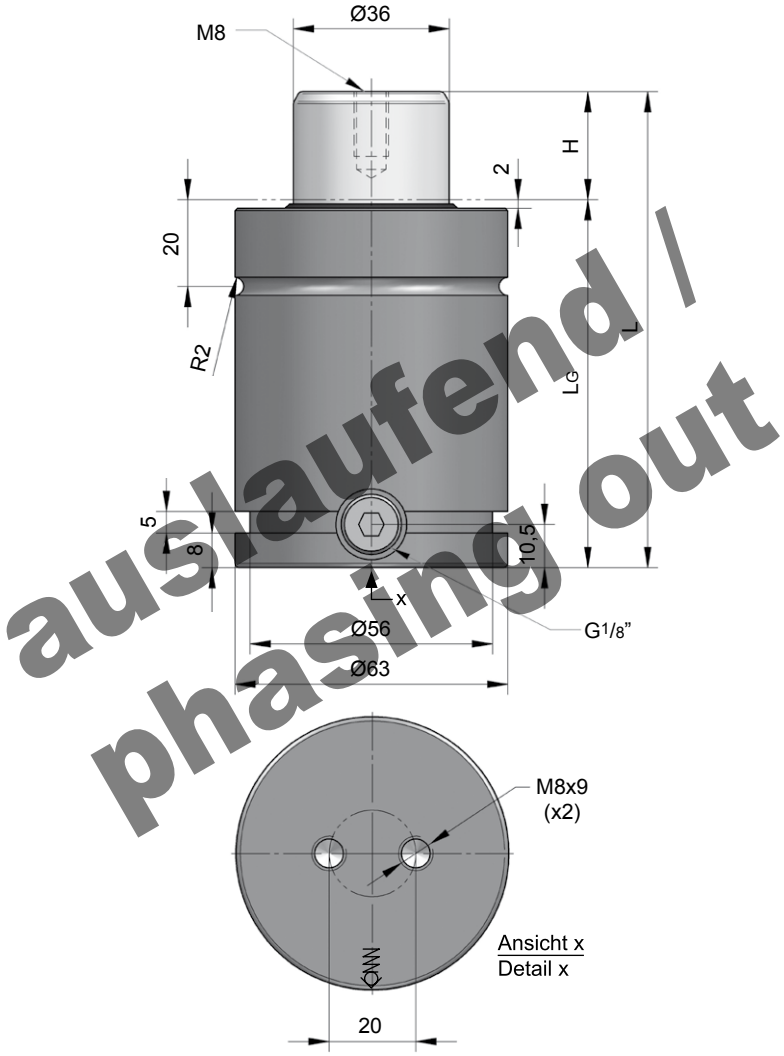
NC.016.00.01500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

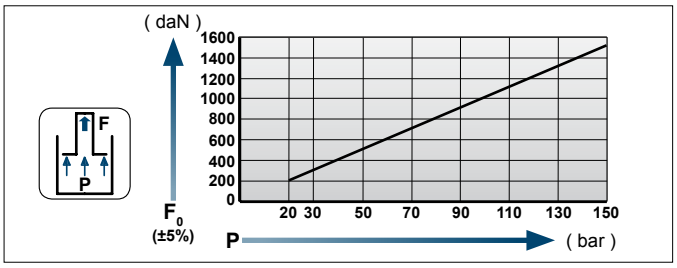
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

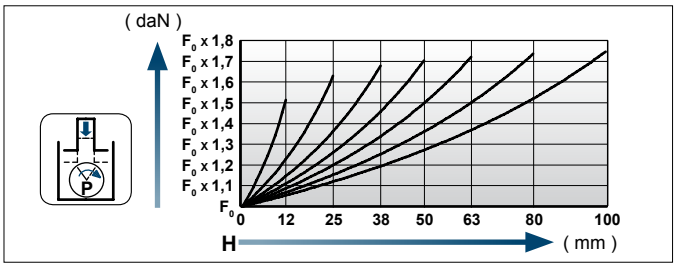


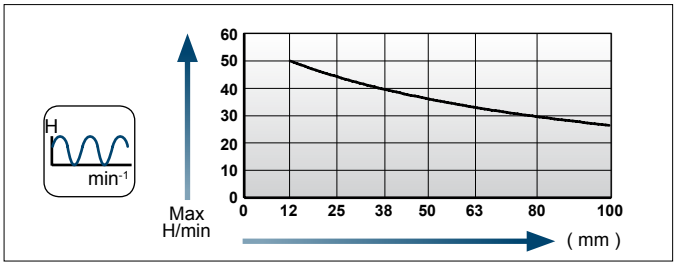
auslaufend / phasing out

NC.016.00.01500.080

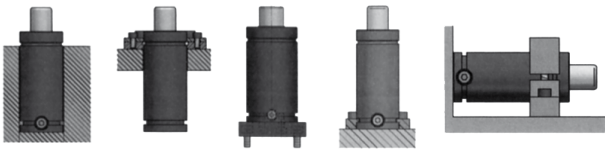
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	1530	
038	136	98	1530	
050	160	110	1530	
063	186	123	1530	
080	220	140	1530	
100	260	160	1530	





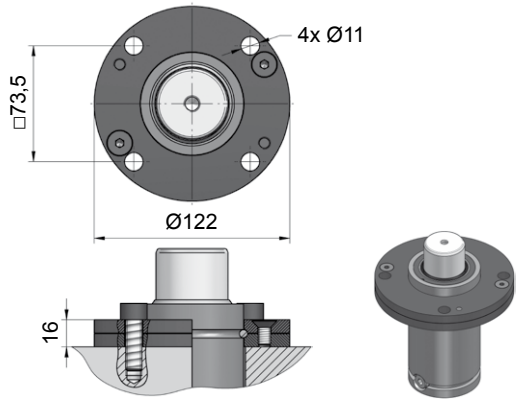


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.016.00.01500**



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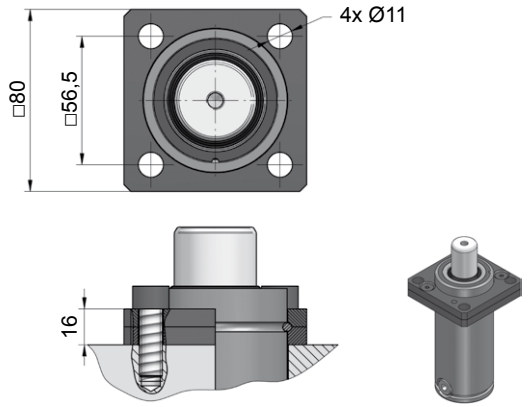

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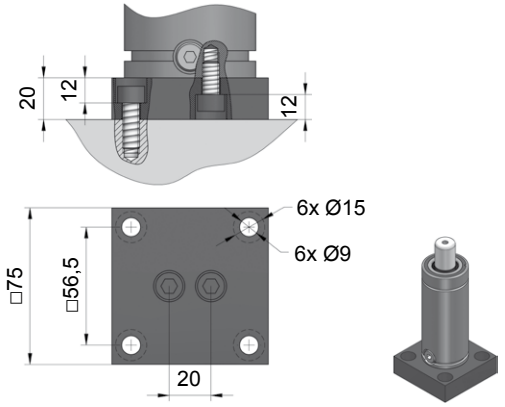

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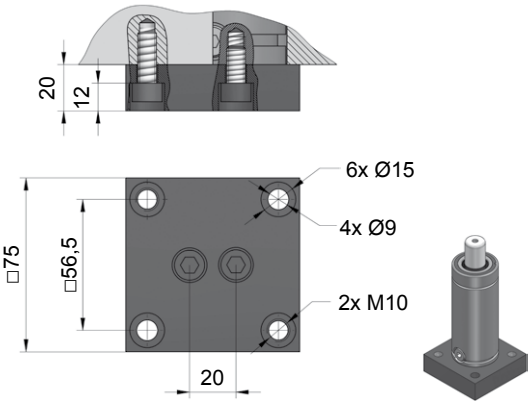

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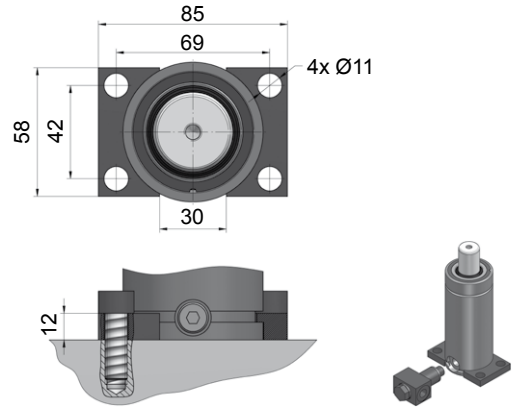

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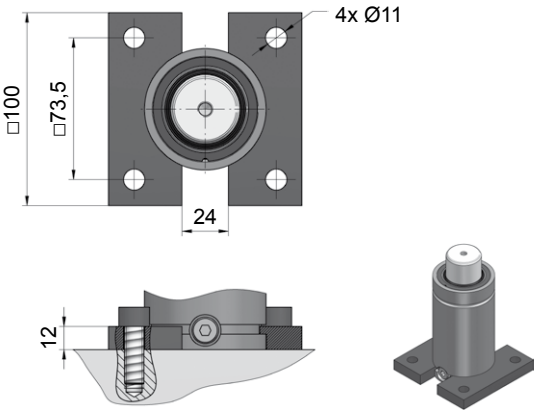

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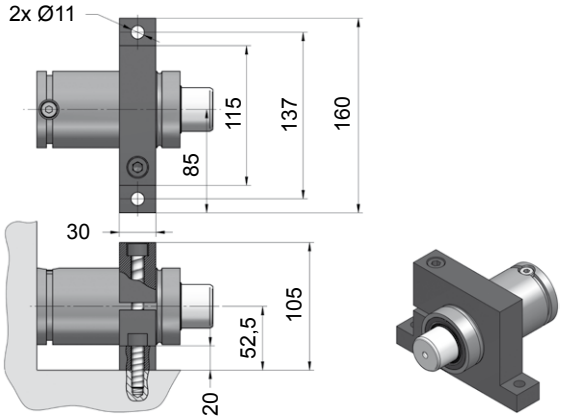

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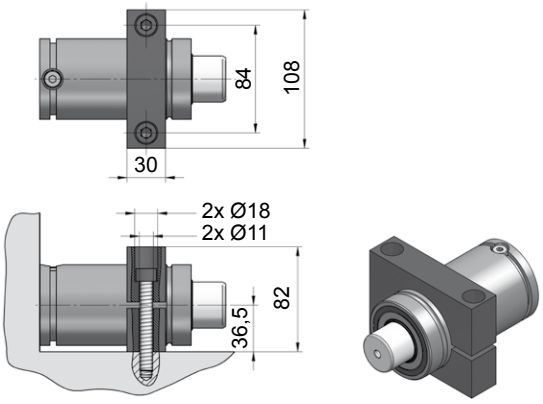


NC.88.00.063.0467

NC.016.00.01500...1

NEU! NEW!

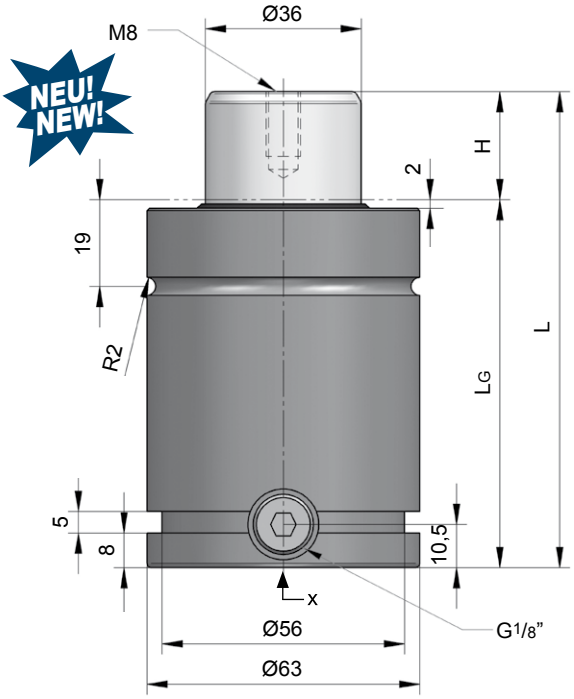
ZUGELASSEN PED 97/23/EG

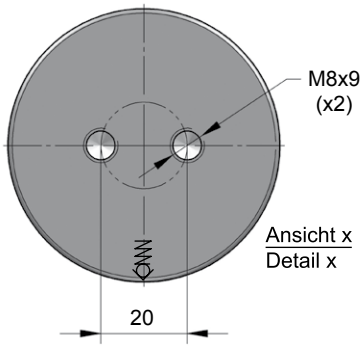
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

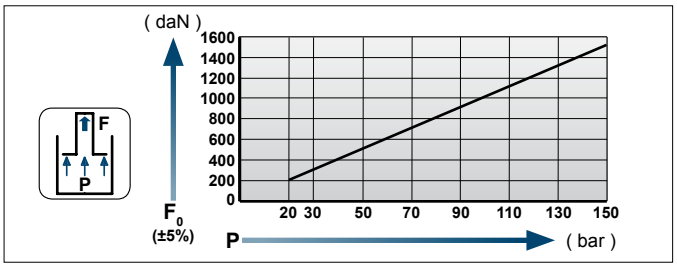
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

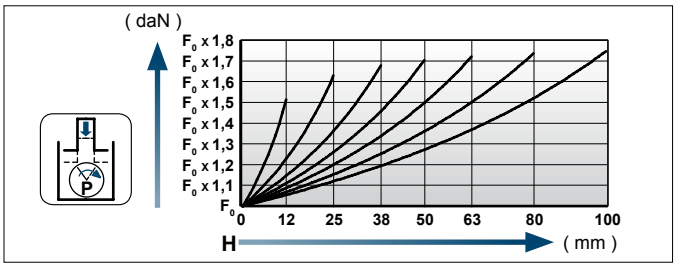


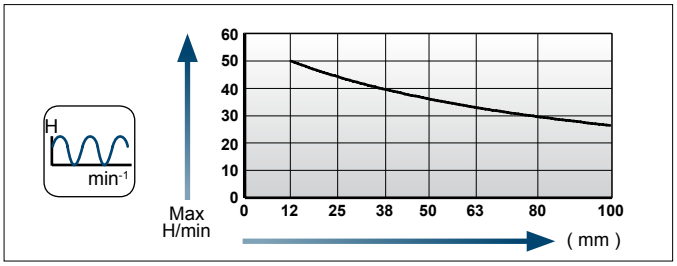


NC.016.00.01500.080.1

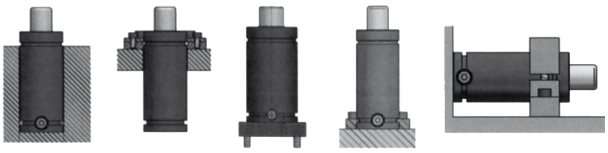
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	1530	
038	136	98	1530	
050	160	110	1530	
063	186	123	1530	
080	220	140	1530	
100	260	160	1530	







Einbaubeispiele / Flange mounting options



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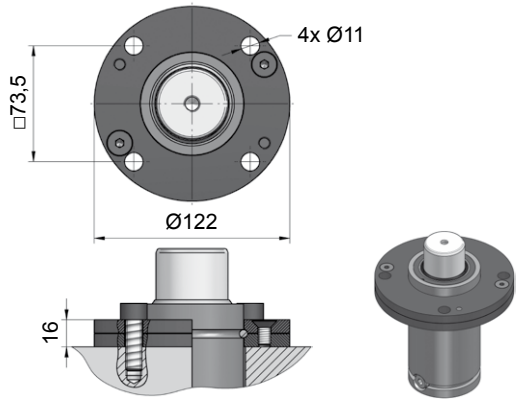
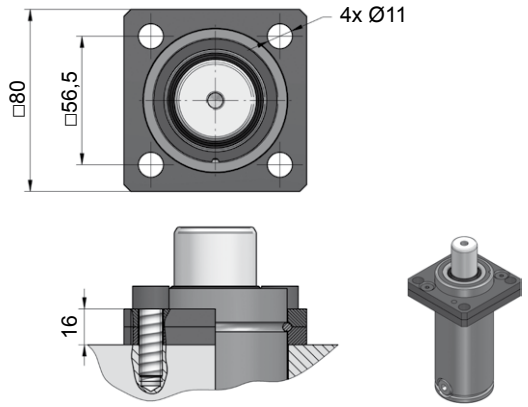
Flansche für / Flanges for **NC.016.00.01500…1**



NC.88.00.063.0114



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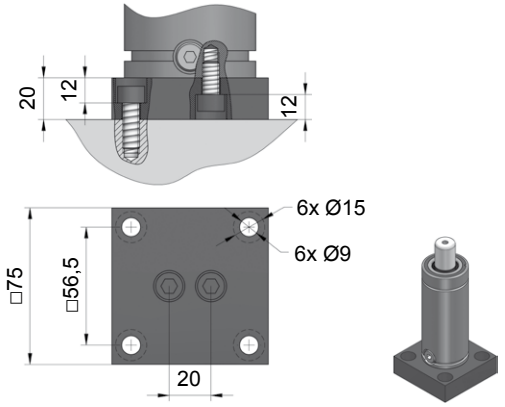

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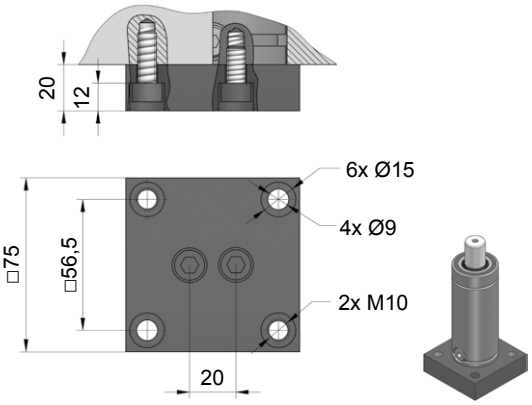

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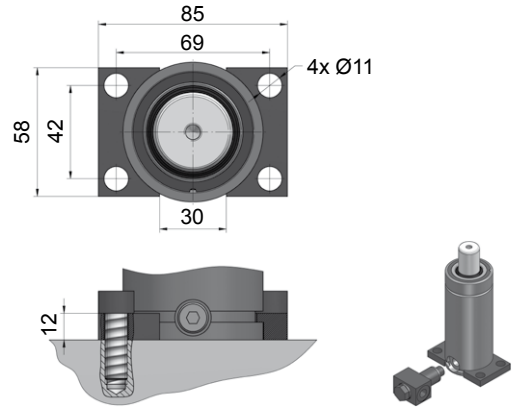

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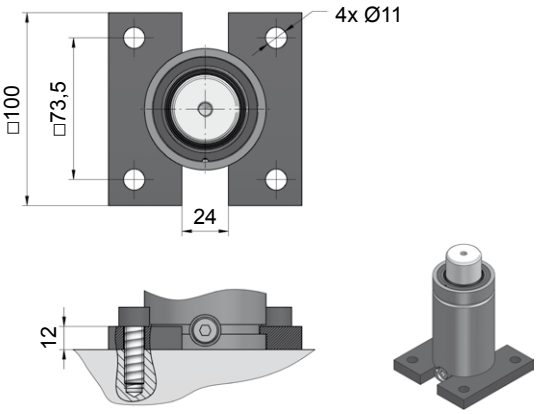

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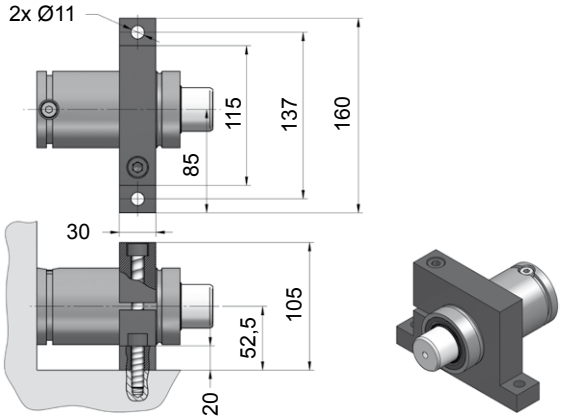

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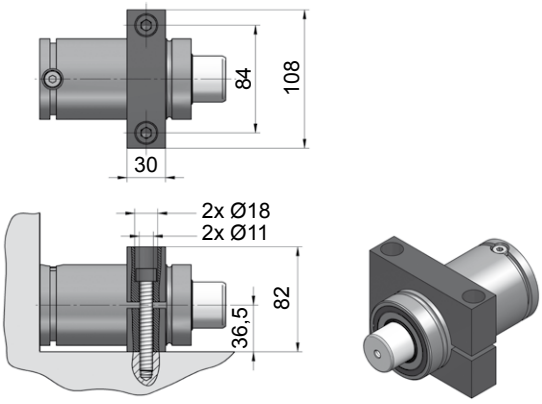


NC.88.00.063.0467

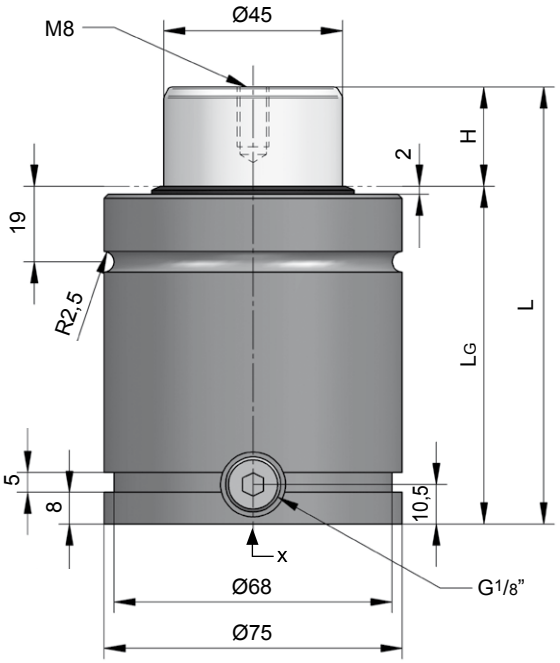
NC.016.00.02500

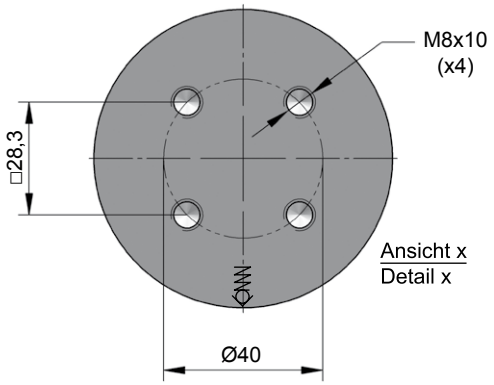
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

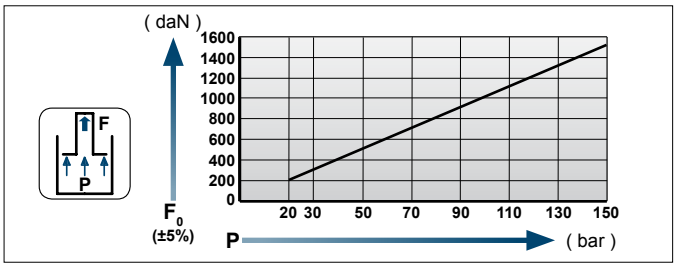


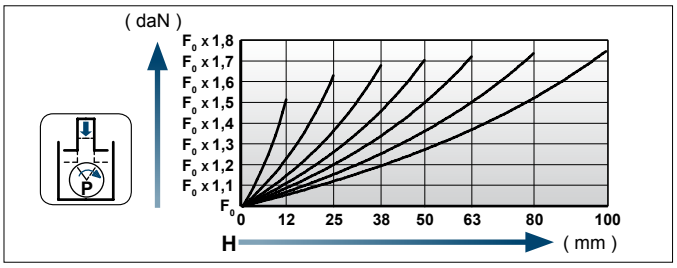


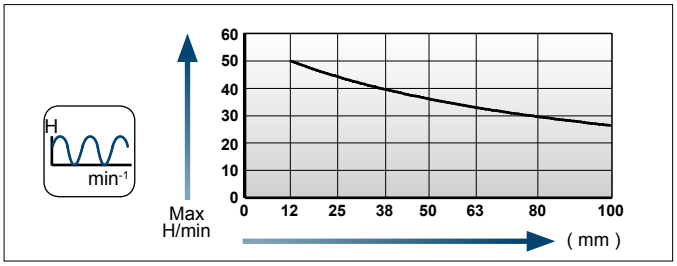
Ansicht x
Detail x

NC.016.00.02500.100

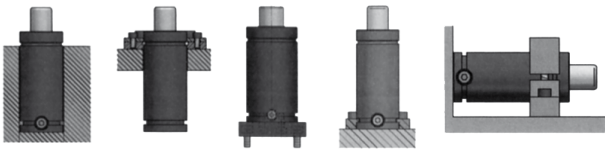
H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	2545	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	2545	
038	136	98	2545	
050	160	110	2545	
063	186	123	2545	
080	220	140	2545	
100	260	160	2545	



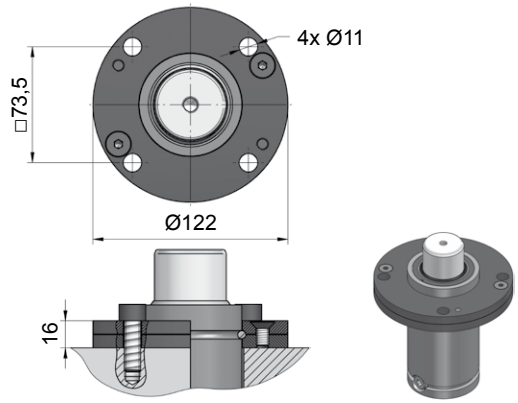




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.016.00.02500**



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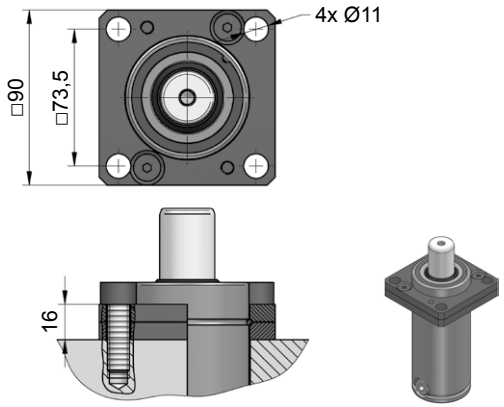

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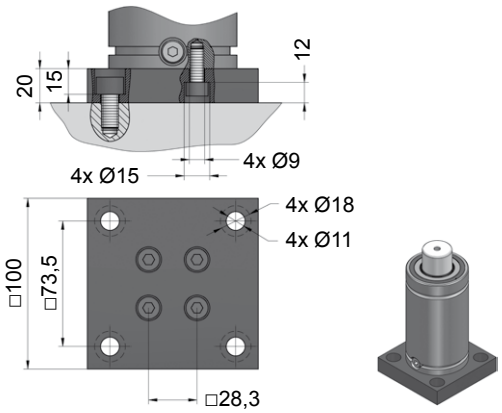

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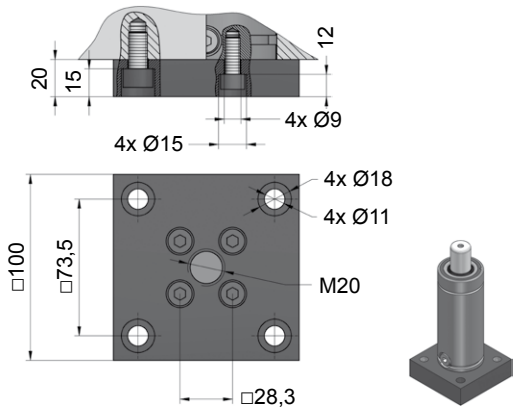

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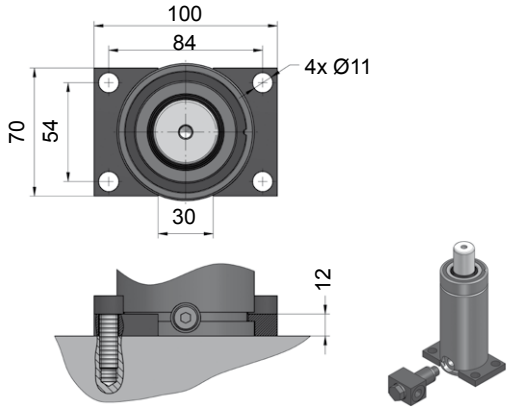

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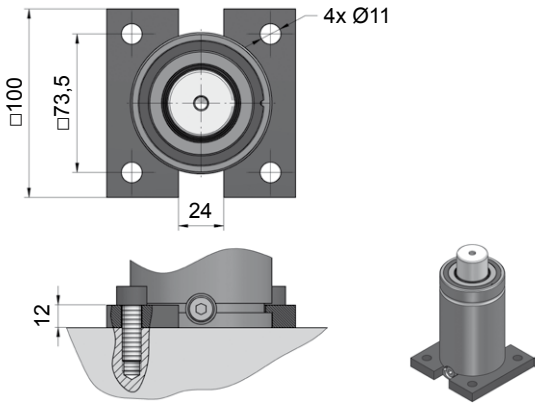

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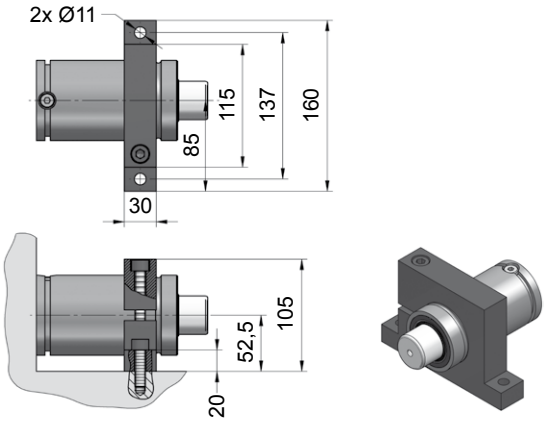

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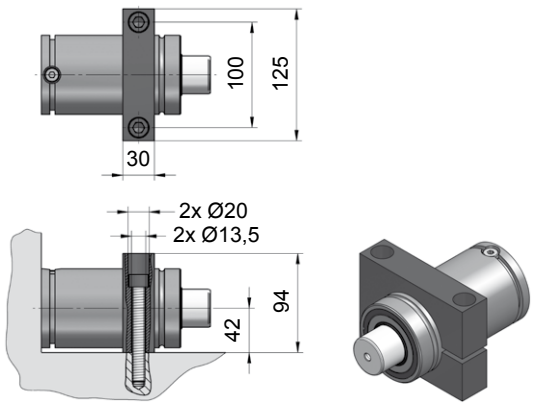


NC.88.00.075.0467

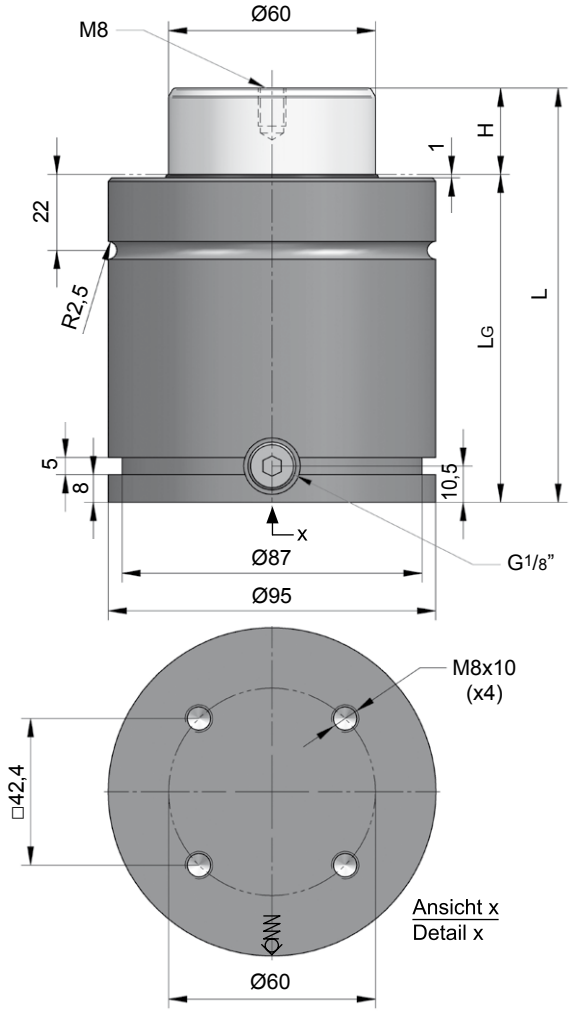
NC.016.00.04000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

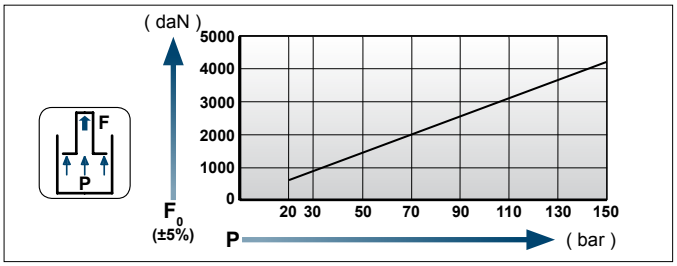
Specifications:

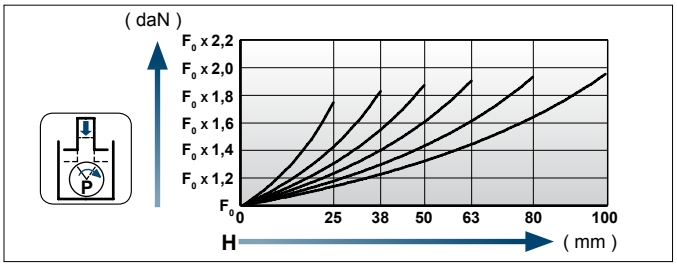
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

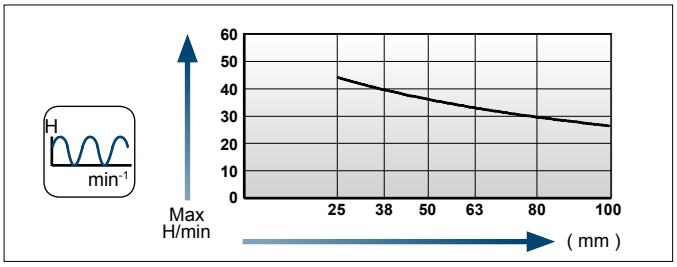


NC.016.00.04000.100

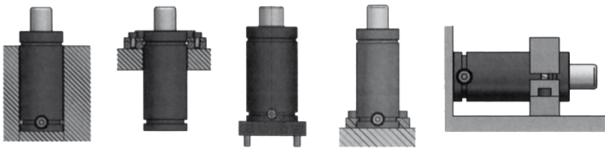
H Hub / Stroke	L ±0,25	LG	Kraft / Force (140 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	120	95	3960	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	146	108	3960	
050	170	120	3960	
063	196	133	3960	
080	230	150	3960	
100	270	170	3960	





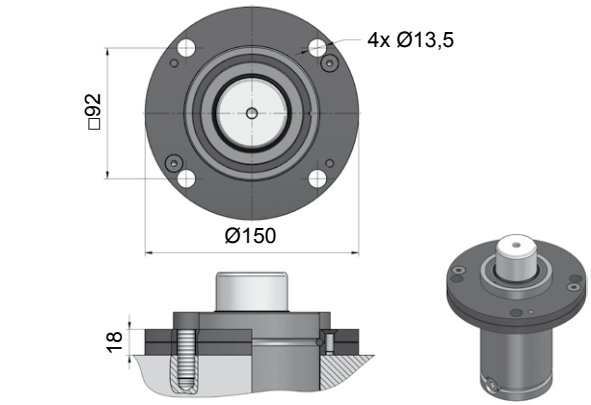


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.016.00.04000**



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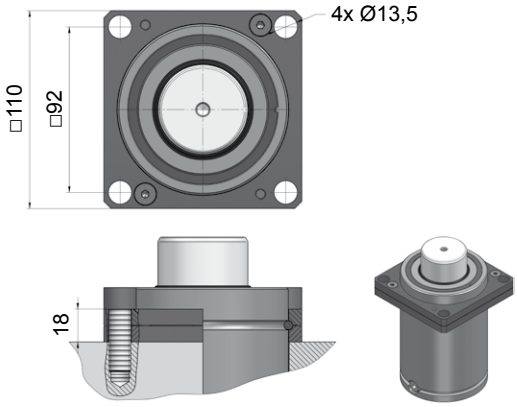

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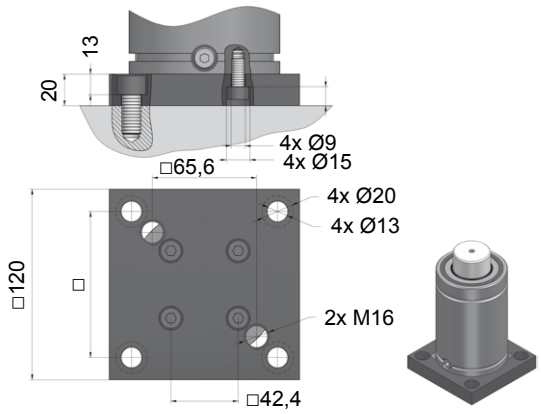
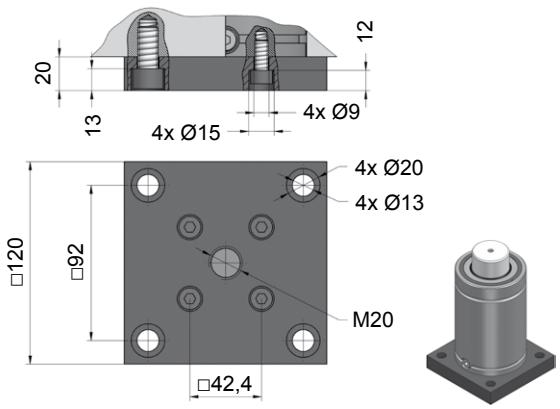


NC.88.00.095.0221



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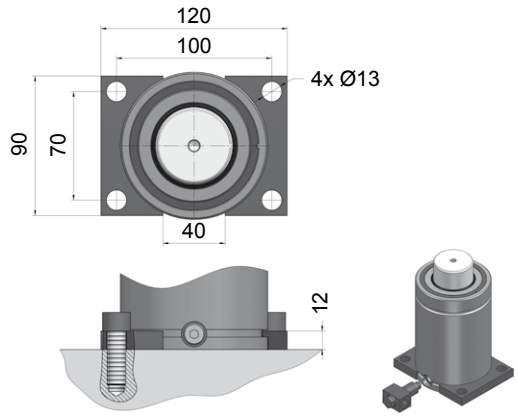

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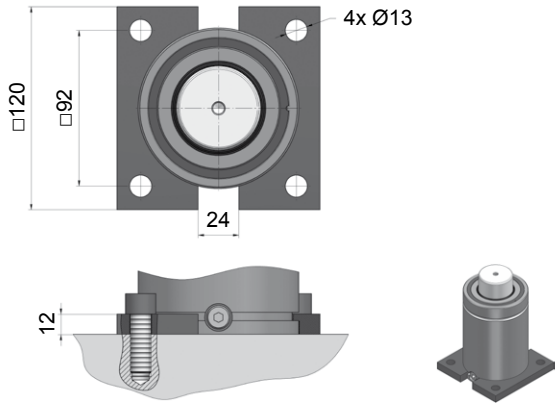
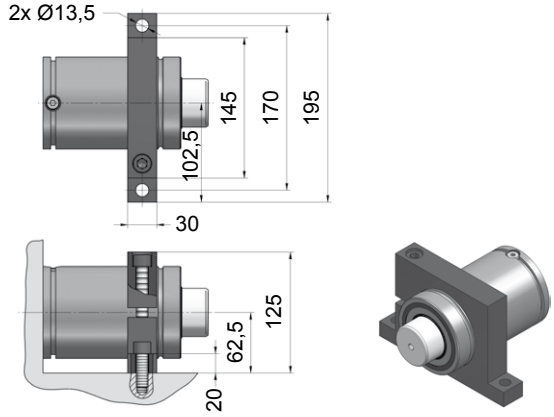


NC.88.00.095.0320



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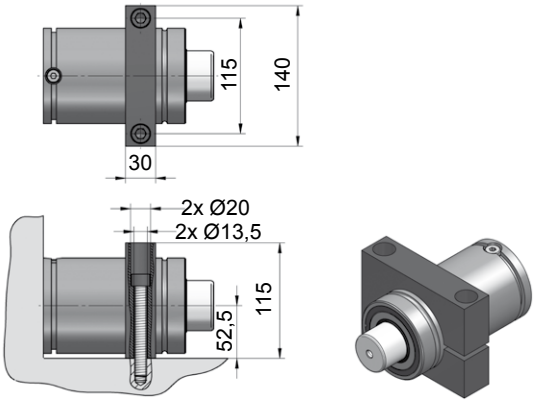
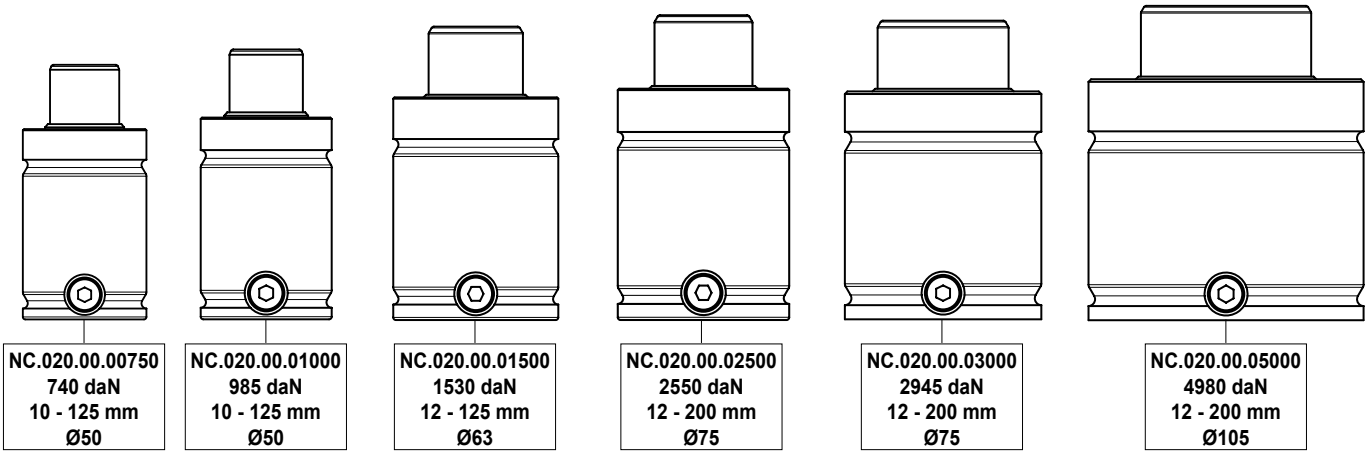


NC.88.00.095.0467

Größenübersicht Serie NC.020.00

Gas spring index NC.020.00 series



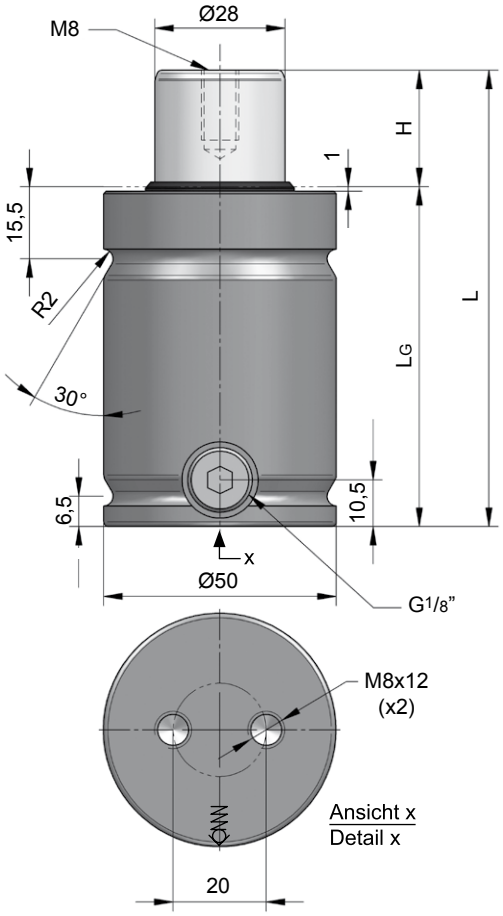
NC.020.00.00750

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

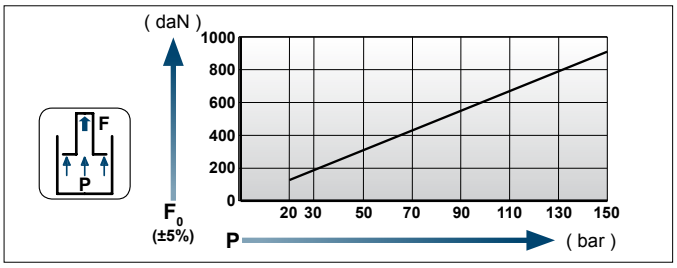
Specifications:

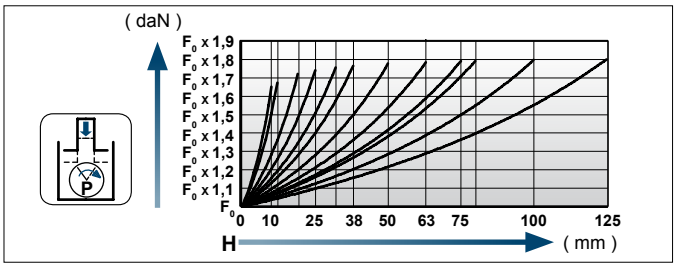
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

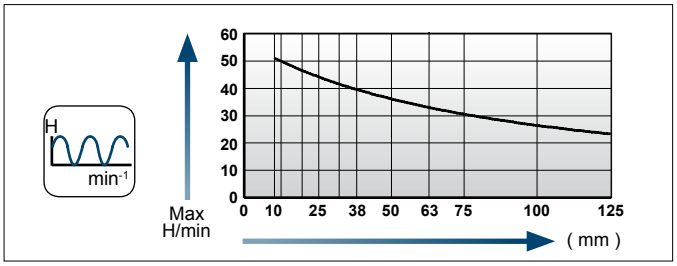


NC.020.00.00750.038

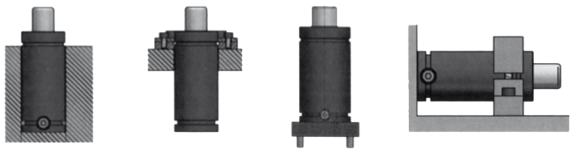
H Hub / Stroke	L ±0,25	LG	Kraft / Force (120 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	68	58	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012	72	60	740	
019	86	67	740	
025	98	73	740	
032	112	80	740	
038	124	86	740	
050	148	98	740	
063	174	111	740	
075	198	123	740	
080	208	128	740	
100	248	148	740	
125	298	173	740	





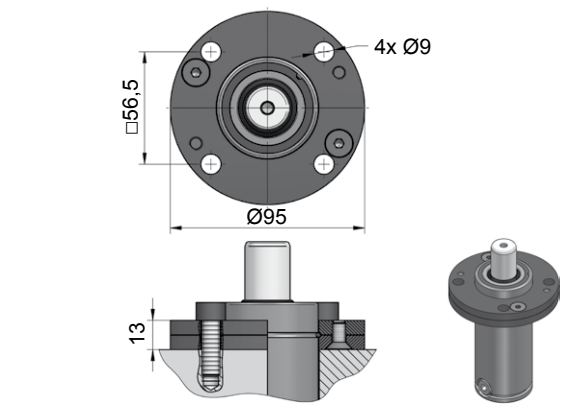


Einbaubeispiele / Flange mounting options

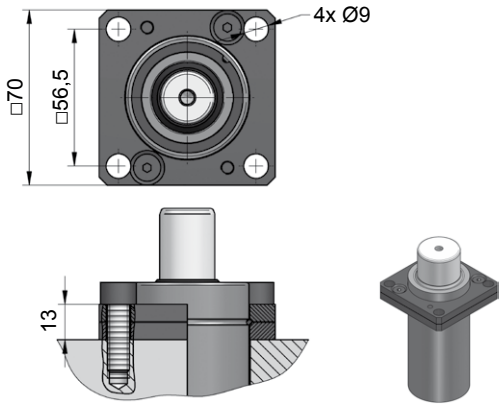


[NC]

Flansche für / Flanges for **NC.020.00.00750**



NC.88.00.050.0114



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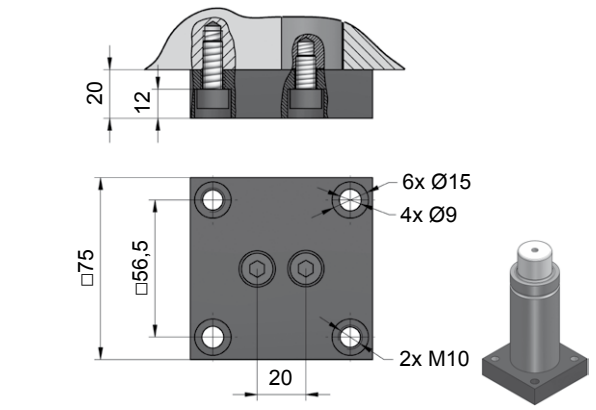
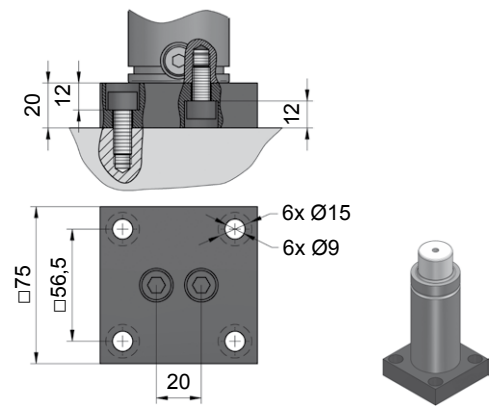


NC.88.00.050.0236



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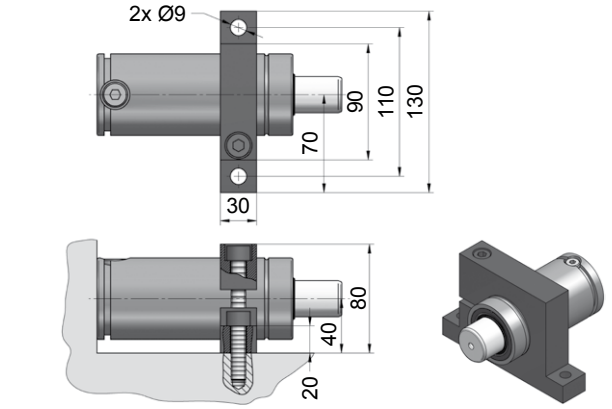

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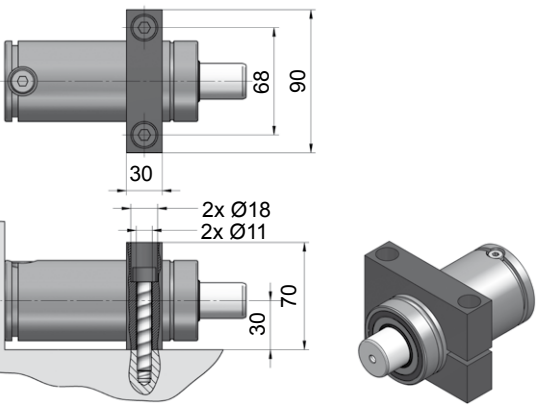


NC.88.00.050.0467

[NC]

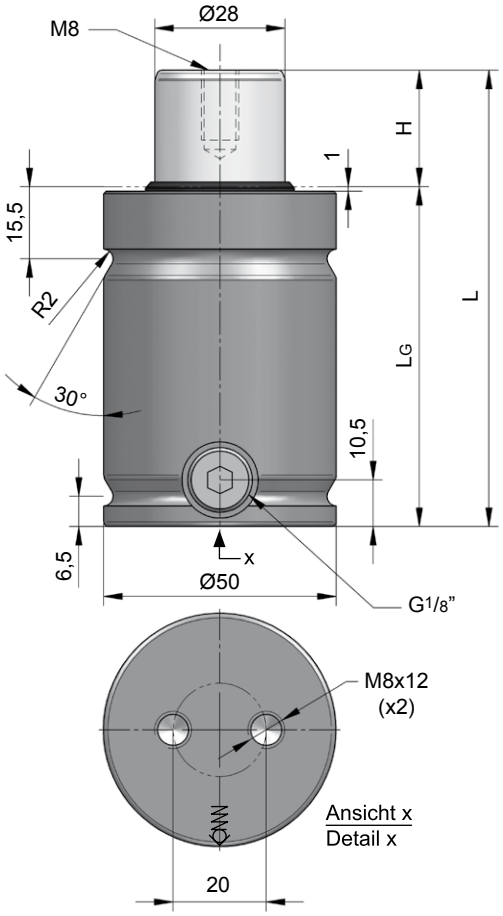
NC.020.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

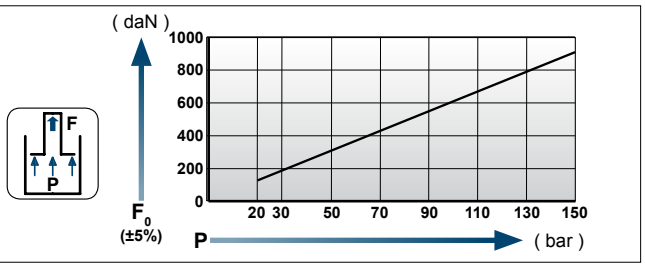
Specifications:

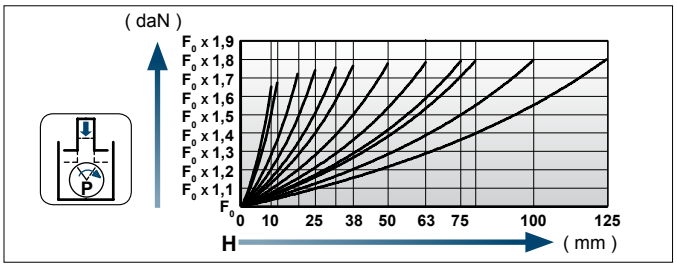
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

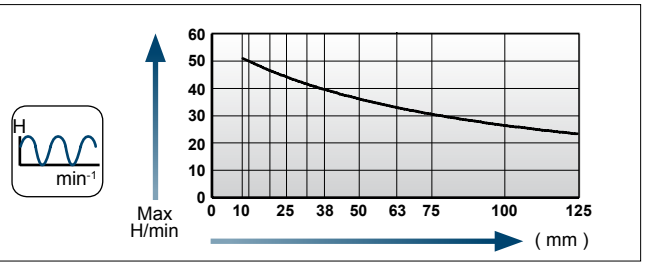


NC.020.00.01000.038

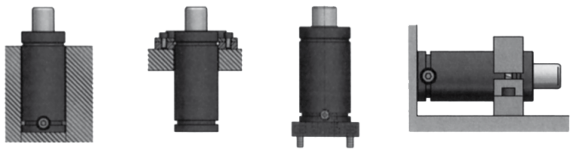
H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	68	58	985	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012	72	60	985	
019	86	67	985	
025	98	73	985	
032	112	80	985	
038	124	86	985	
050	148	98	985	
063	174	111	985	
075	198	123	985	
080	208	128	985	
100	248	148	985	
125	298	173	985	







Einbaubeispiele / Flange mounting options



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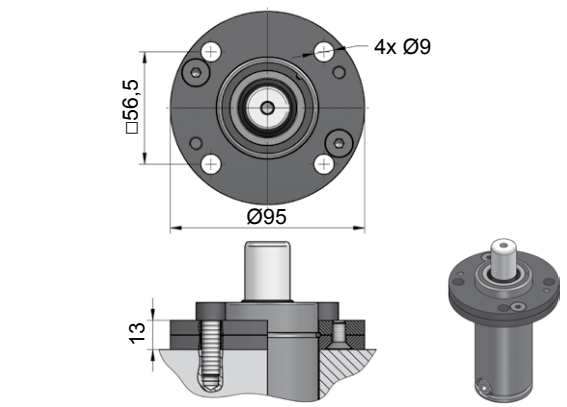
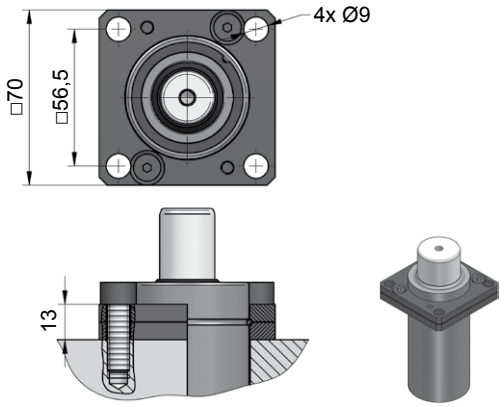
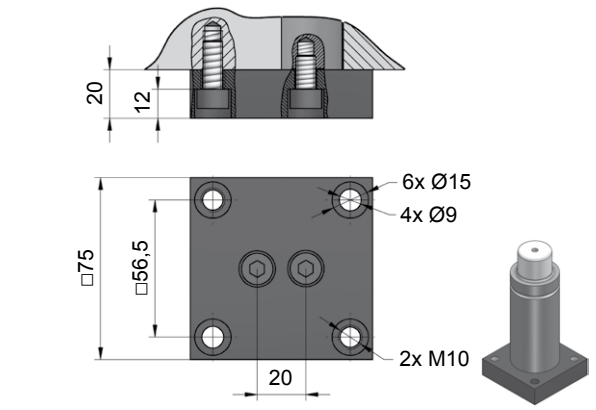
Flansche für / Flanges for **NC.020.00.01000**



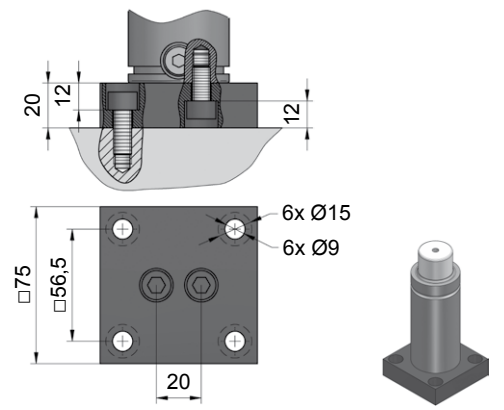
NC.88.00.050.0114



NC.88.00.050.0134



NC.88.00.050.0236



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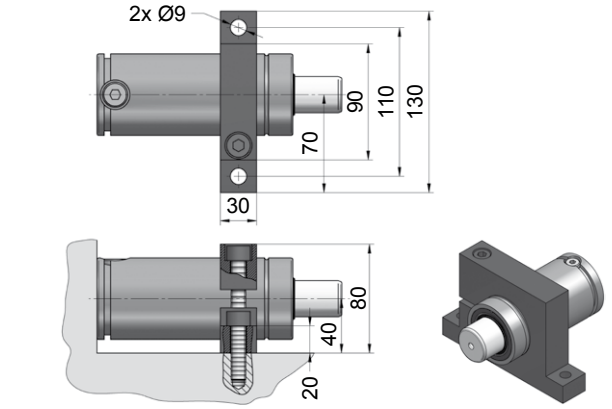
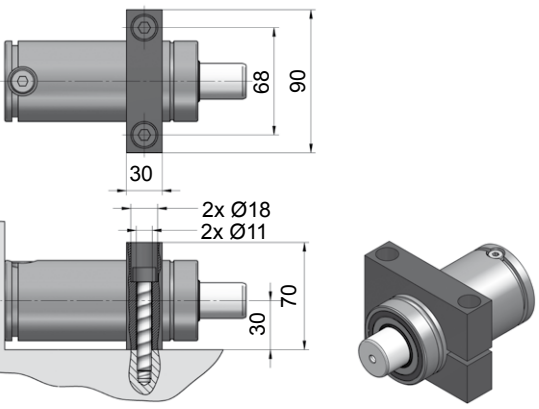


NC.88.00.050.0402



NC.88.00.050.0467

[NC]

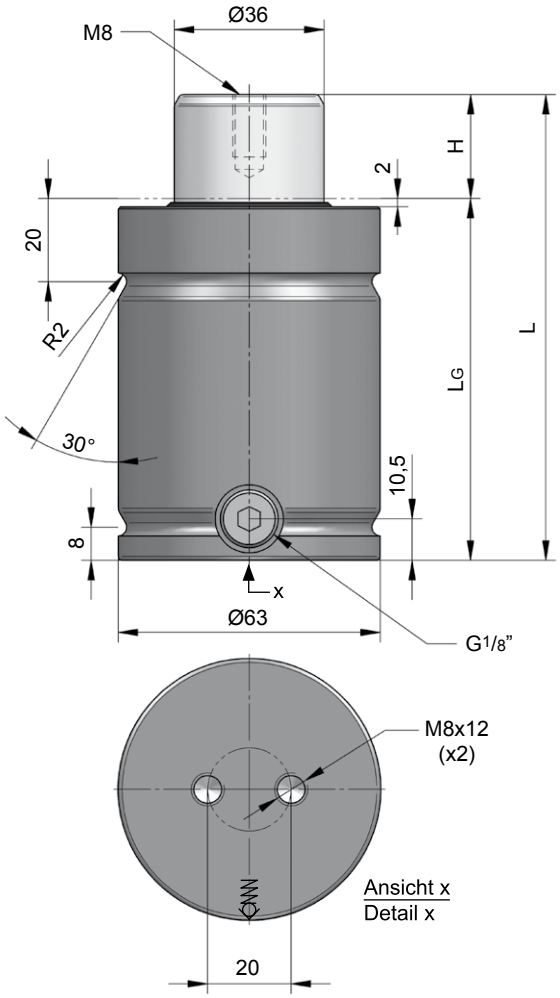
NC.020.00.01500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

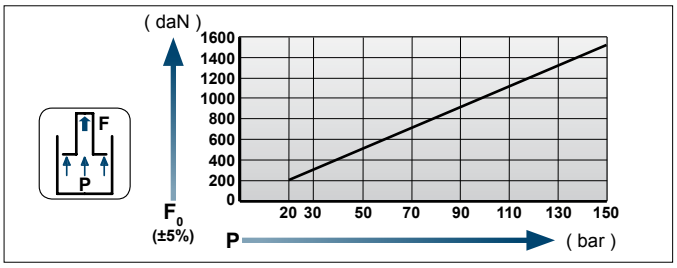
Specifications:

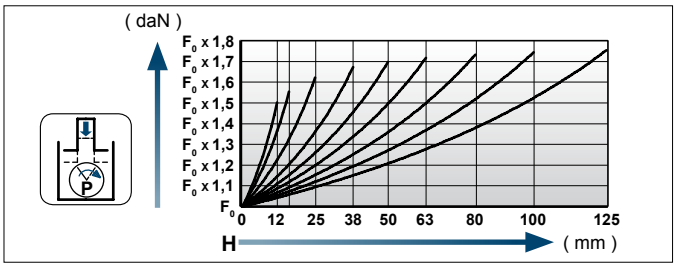
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

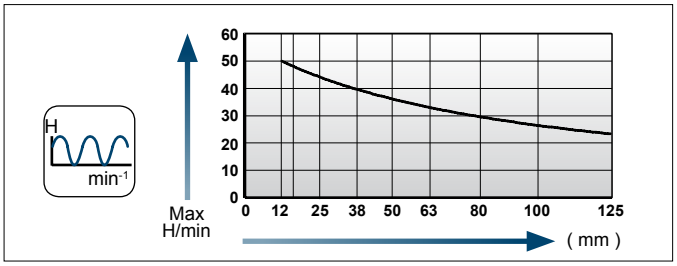


NC.020.00.01500.012

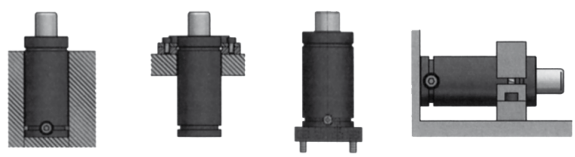
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	86	74	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	94	78	1530	
025	112	87	1530	
038	138	100	1530	
050	162	112	1530	
063	188	125	1530	
080	222	142	1530	
100	262	162	1530	
125	312	187	1530	



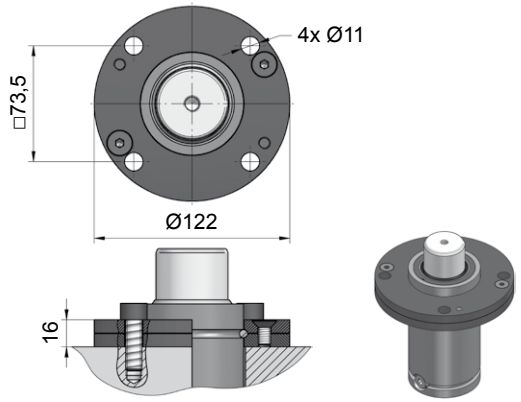




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.020.00.01500**



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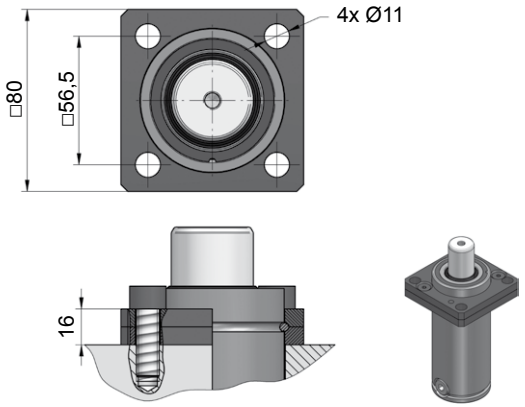

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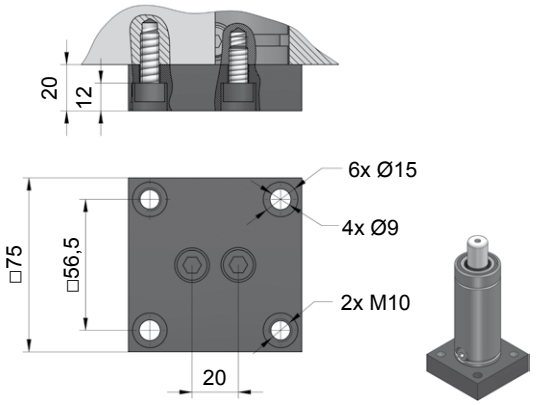

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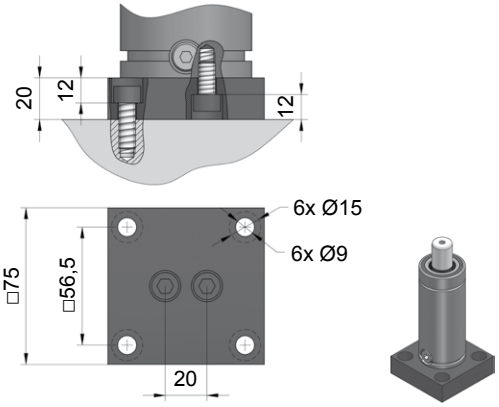
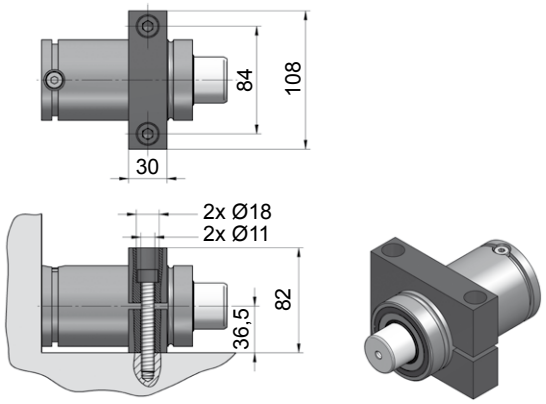


NC.88.00.063.0241



NC.88.00.063.0467

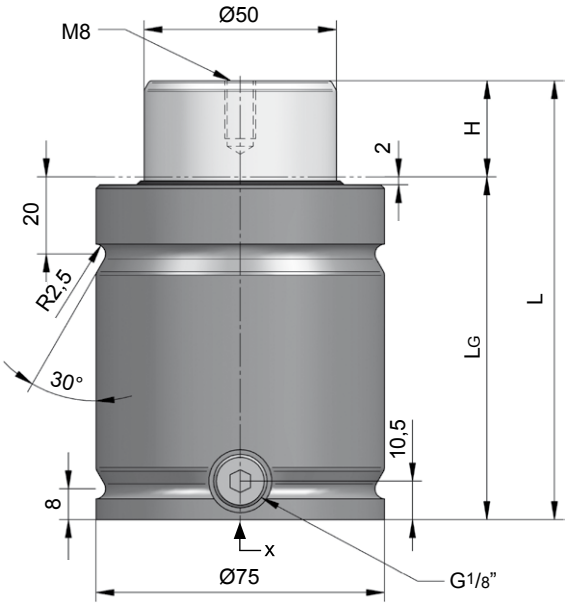
NC.020.00.02500

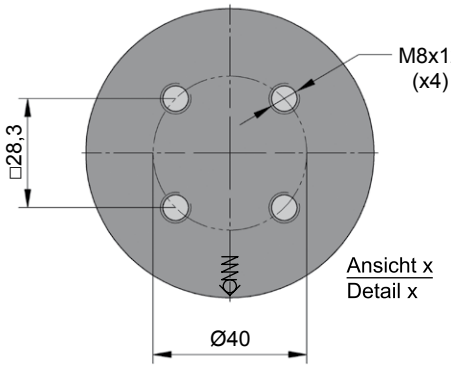
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

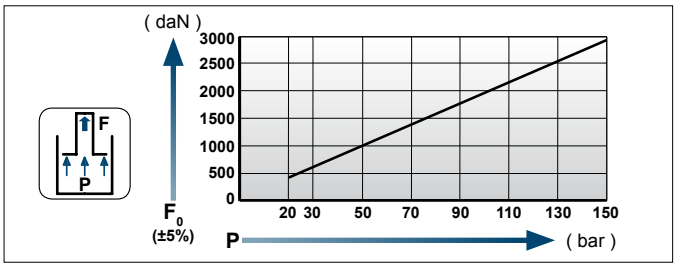
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

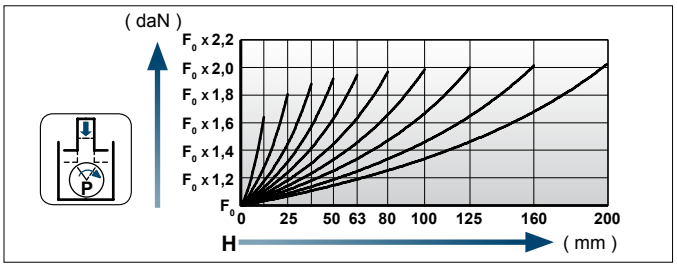


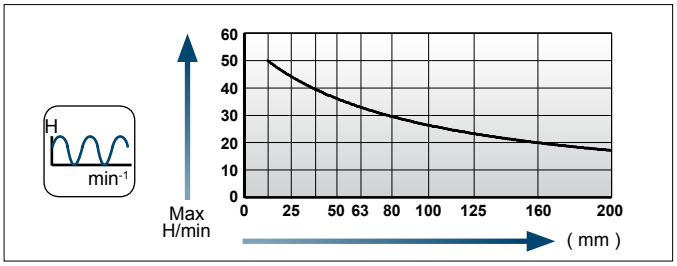


NC.020.00.02500.012

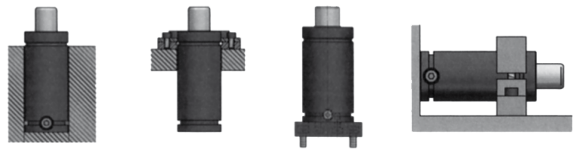
H Hub / Stroke	L ±0,25	LG	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	88	76	2550	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	114	89	2550	
038	140	102	2550	
050	164	114	2550	
063	190	127	2550	
080	224	144	2550	
100	264	164	2550	
125	314	189	2550	
160	384	224	2550	
200	464	264	2550	





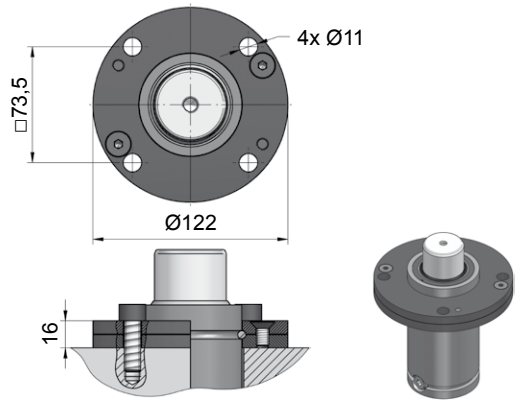


Einbaubeispiele / Flange mounting options

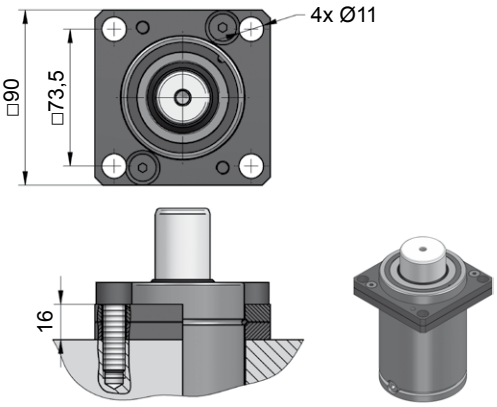


[NC]

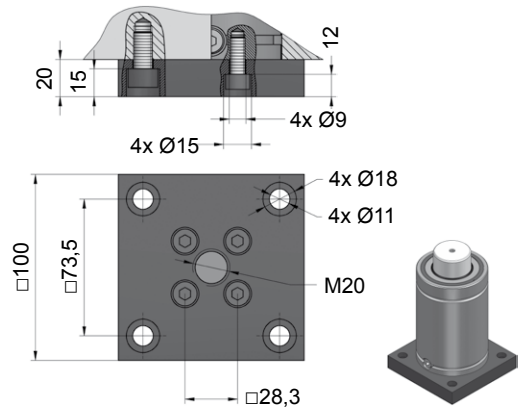
Flansche für / Flanges for **NC.020.00.02500**



NC.88.00.075.0114



NC.88.00.075.0134



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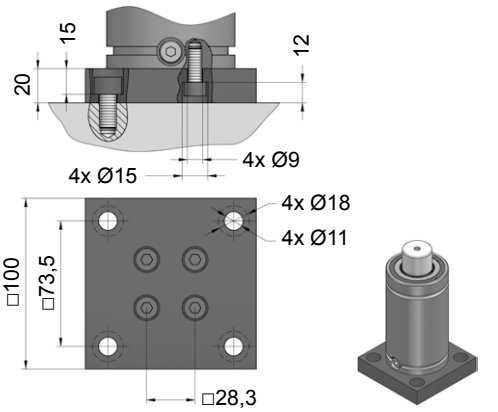
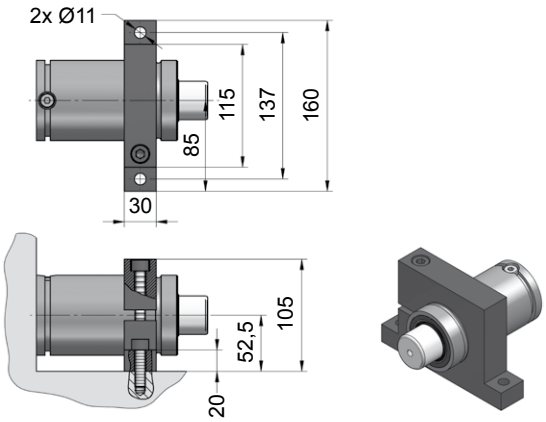
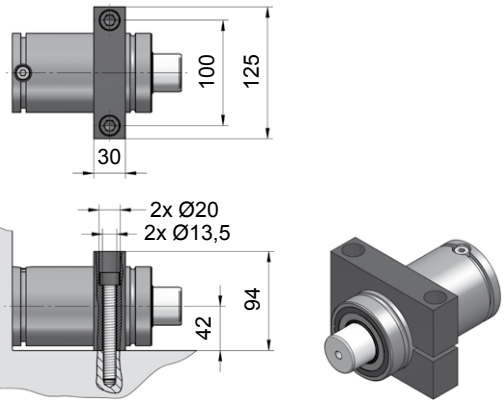


NC.88.00.075.0241



NC.88.00.075.0402



NC.88.00.075.0467

[NC]

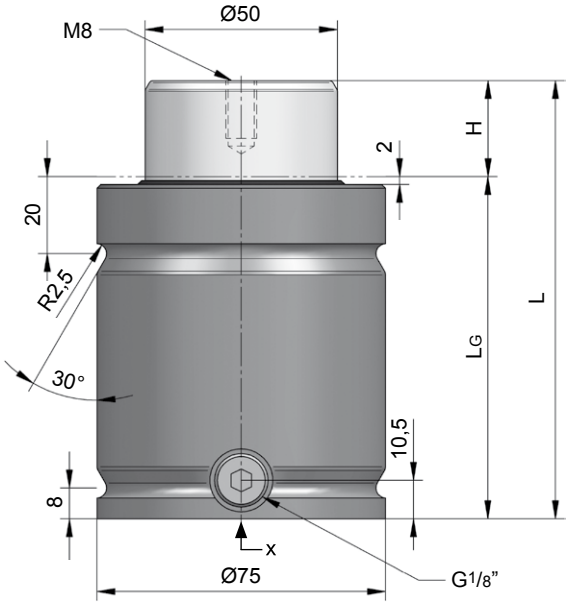
NC.020.00.03000

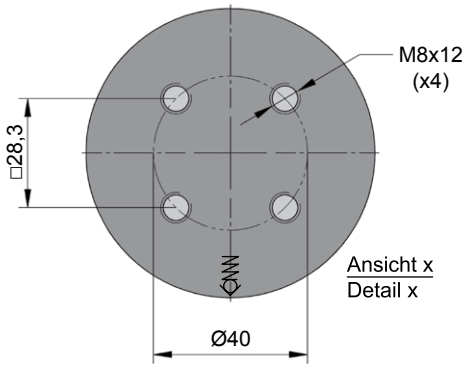
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

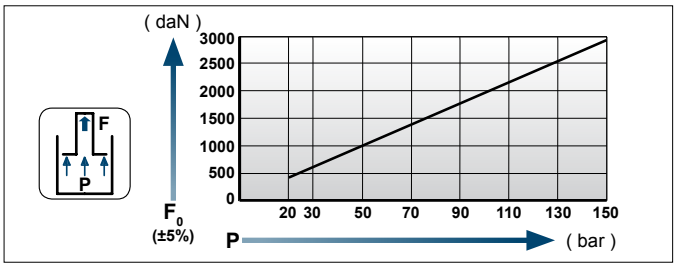
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

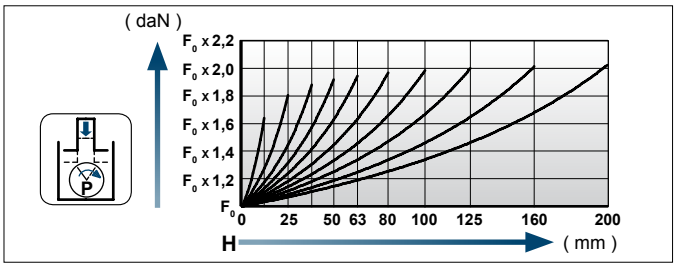


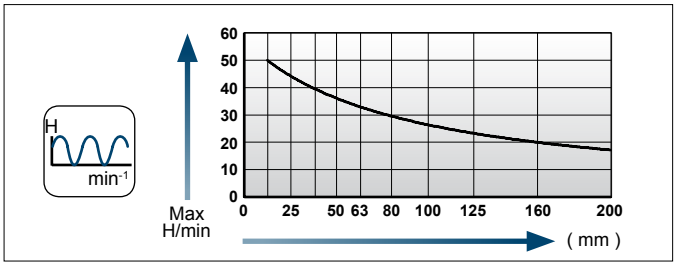


NC.020.00.03000.025

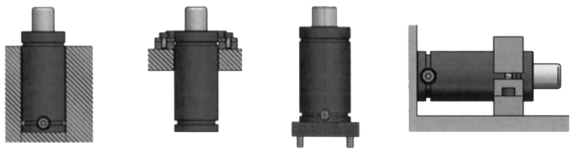
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	88	76	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	114	89	2945	
038	140	102	2945	
050	164	114	2945	
063	190	127	2945	
080	224	144	2945	
100	264	164	2945	
125	314	189	2945	
160	384	224	2945	
200	464	264	2945	



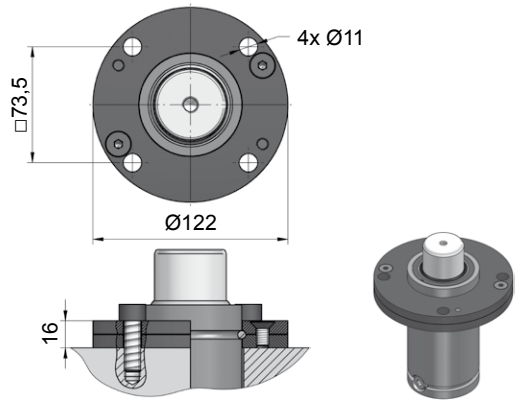




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.020.00.03000**



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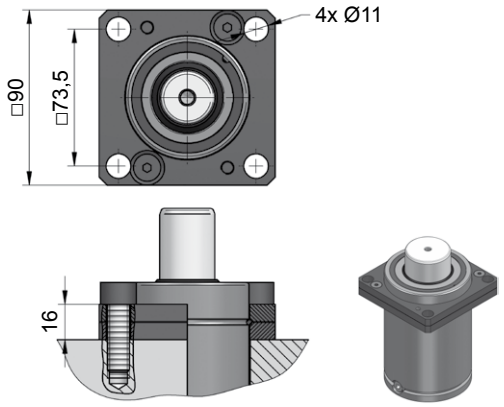

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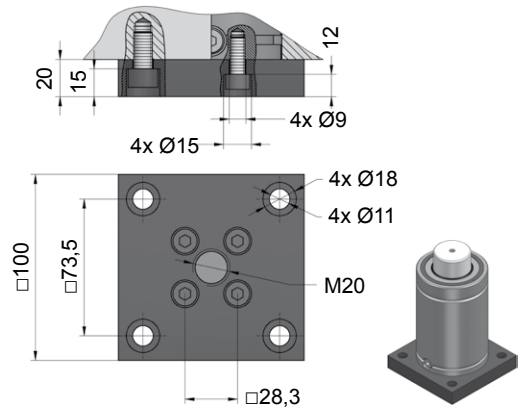
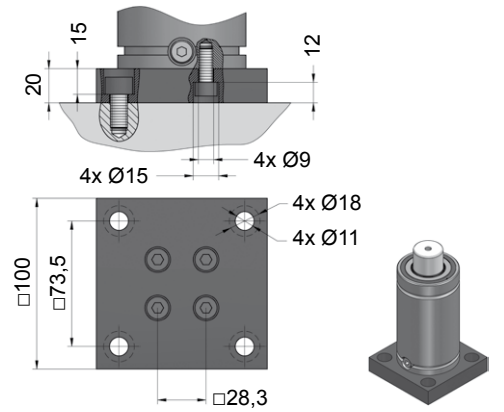
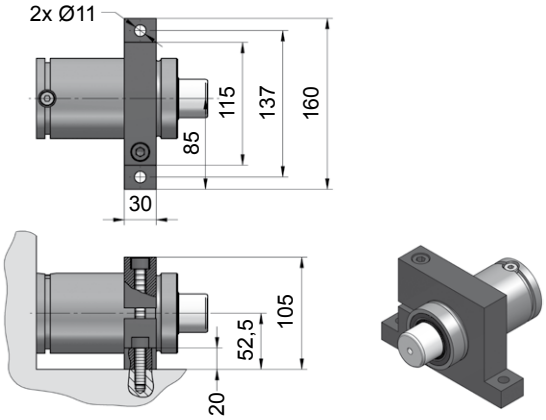


NC.88.00.075.0236



NC.88.00.075.0241



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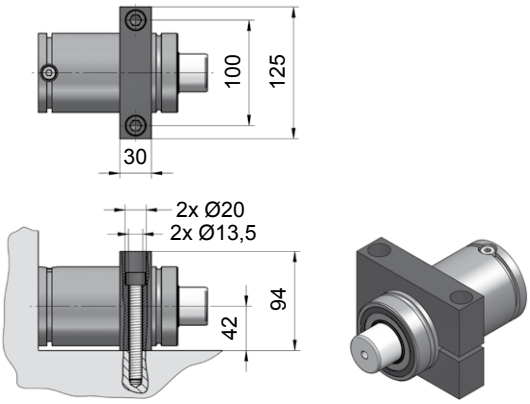


NC.88.00.075.0467

[NC]

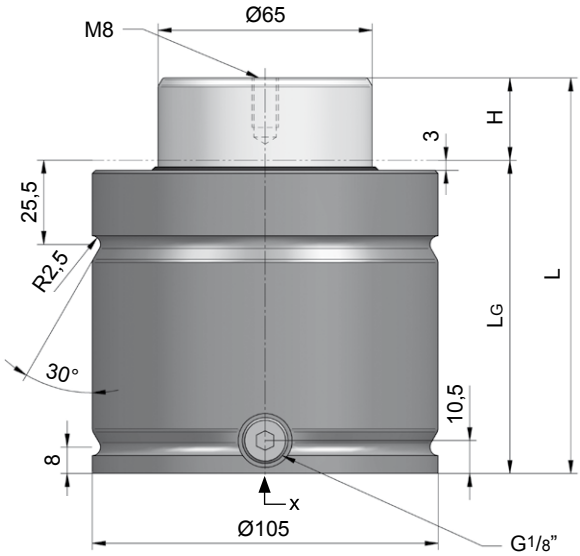
NC.020.00.05000

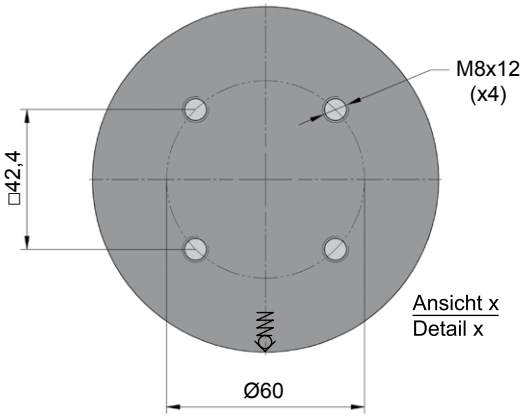
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

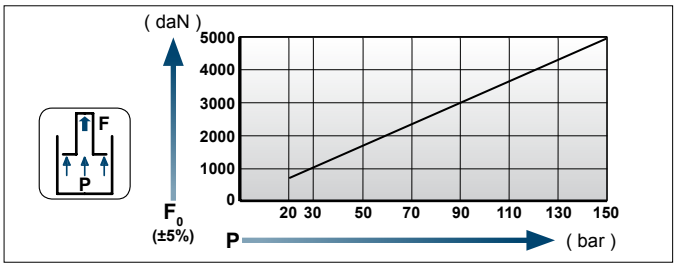
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

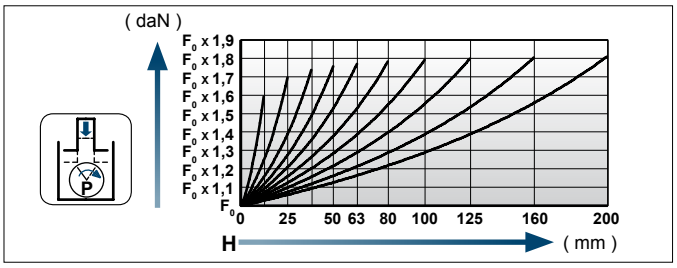


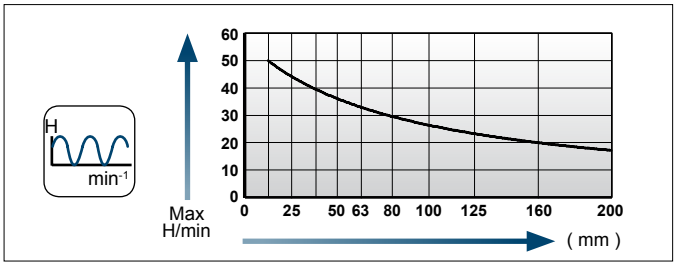


NC.020.00.05000.012

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	94	82	4980	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	120	95	4980	
038	146	108	4980	
050	170	120	4980	
063	196	133	4980	
080	230	150	4980	
100	270	170	4980	
125	320	195	4980	
160	390	230	4980	
200	470	270	4980	

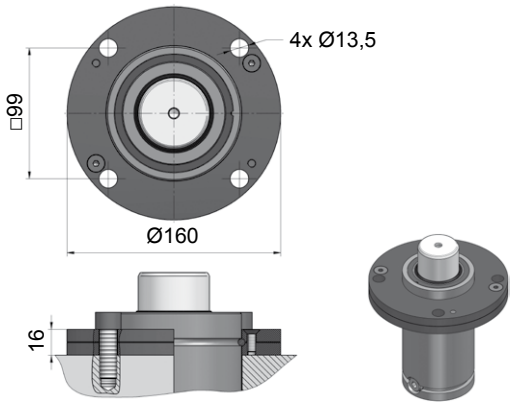




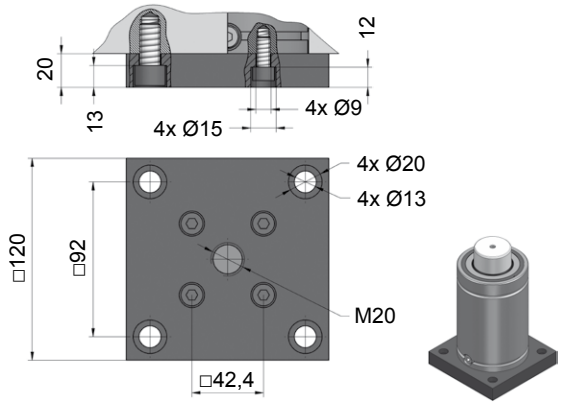


Einbaubeispiele / Flange mounting options

Flansche für / Flanges for **NC.020.00.05000**



NC.88.00.105.0114



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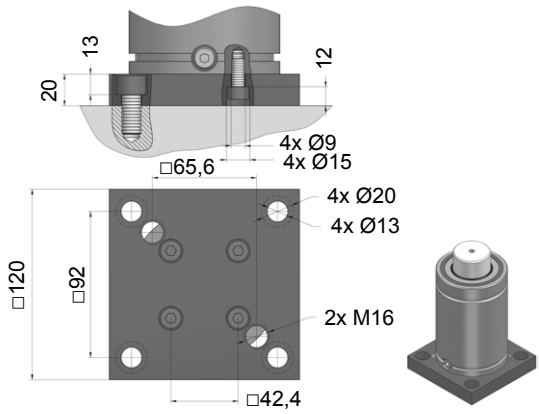


NC.88.00.105.0241

Technische Information Serie NC.028.00

Die Gasdruckfedern der Serie **NC.028.00** sind baugleich mit den kleineren Abmessungen der Serie **NC.015.00**, haben aber einen verstärkten Boden zur Unterbringung eines G1/8“-Anschlussgewindes.

Technical information NC.028.00 series

The **NC.028.00**-gas springs have the same outside dimensions as the smaller size **NC.015.00**-series. However, in order to accomodate a G1/8“ - thread, their base plate is thicker.

Größenübersicht Serie NC.028.00

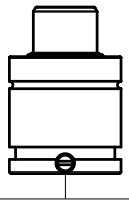
Gas spring index NC.028.00 series

NC.028.00.00750
740 daN
10 - 125 mm
Ø45

NC.028.00.00750...1
740 daN
10 - 125 mm
Ø45

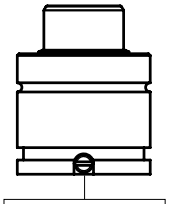
NC.028.00.01000
920 daN
13 - 125 mm
Ø50

NC.028.00.01000...1
920 daN
13 - 125 mm
Ø50



NC.028.00.01500
1530 daN
13 - 125 mm
Ø63

NC.028.00.02400
2385 daN
10 - 125 mm
Ø75



NC.028.00.02400...1
2385 daN
10 - 125 mm
Ø75

[NC]

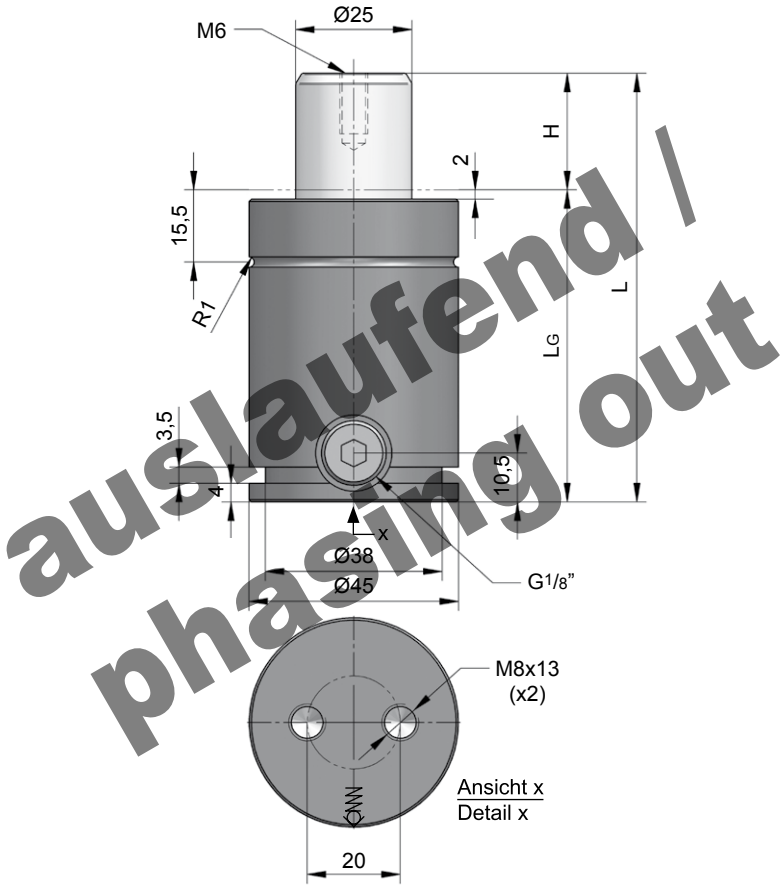
NC.028.00.00750

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

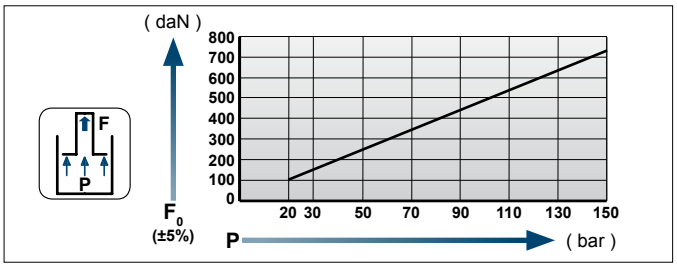
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

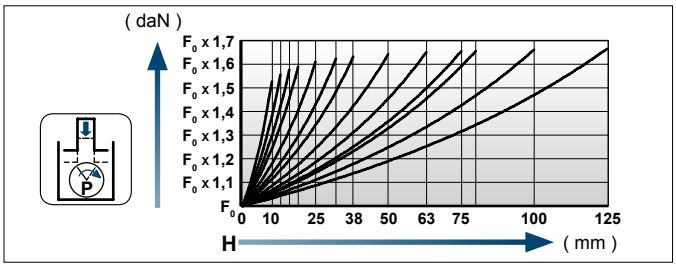


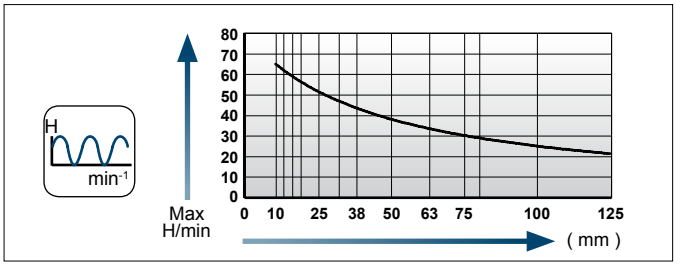
auslaufend / phasing out

NC.028.00.00750.025

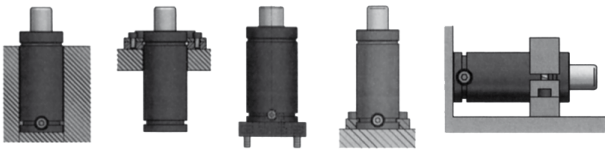
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	62	52	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
013	68	55	740	
016	74	58	740	
019	80	61	740	
025	92	67	740	
032	106	74	740	
038	118	80	740	
050	142	92	740	
063	168	105	740	
075	192	117	740	
080	202	122	740	
100	242	142	740	
125	292	167	740	



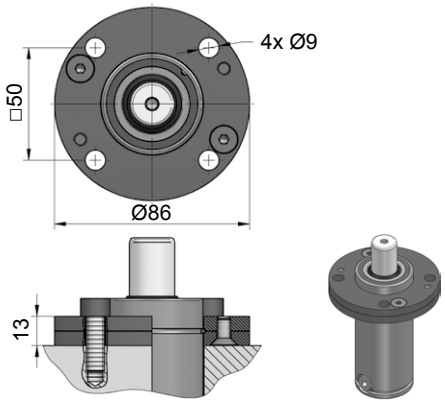




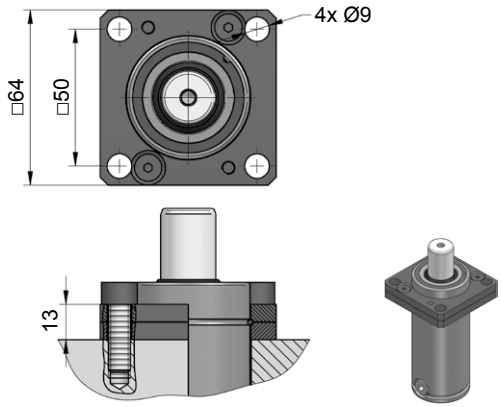
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.028.00.00750**



NC.88.00.045.0114



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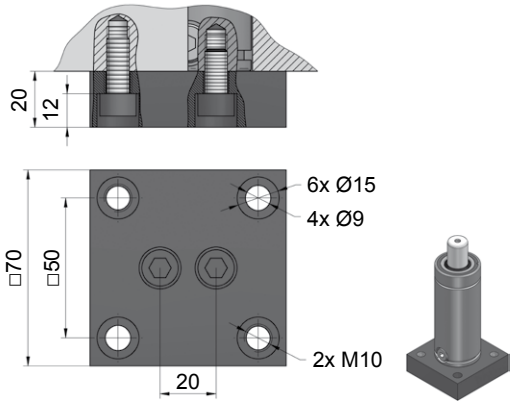
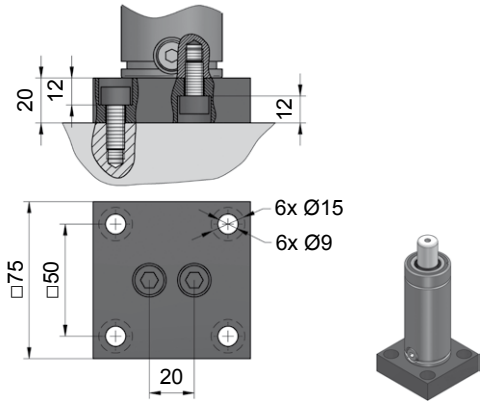


NC.88.00.045.0236



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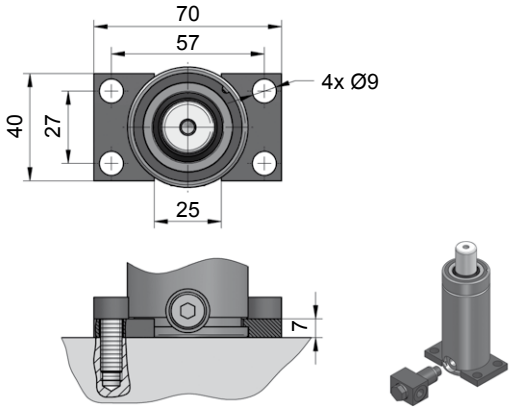

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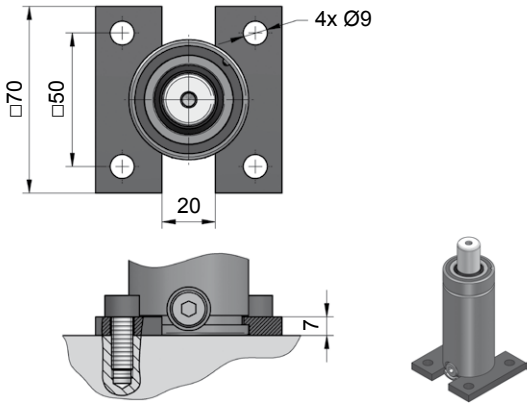
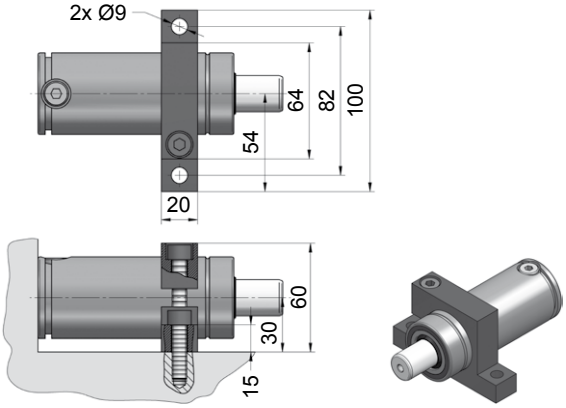
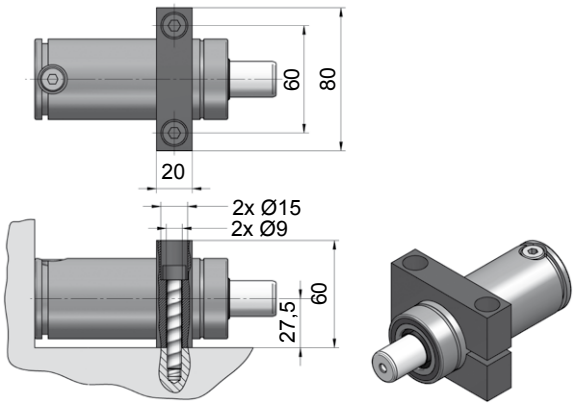


NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

NC.028.00.00750...1

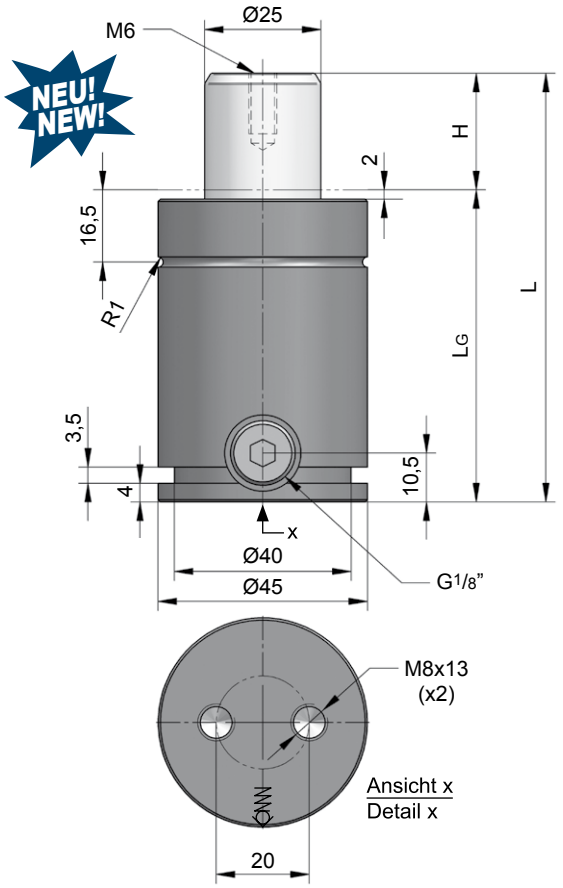
NEU! NEW!

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

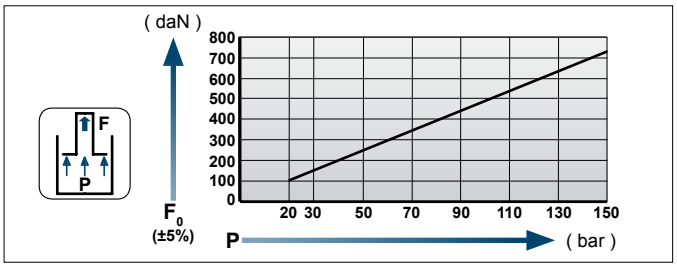
Specifications:

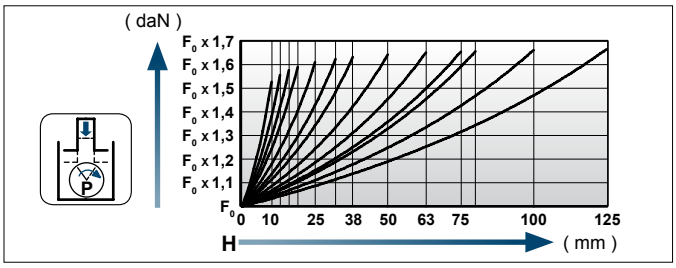
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

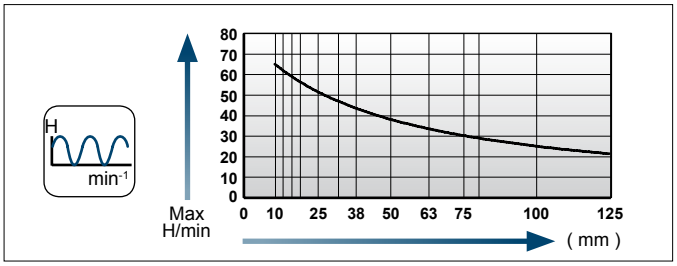


NC.028.00.
00750.025.1

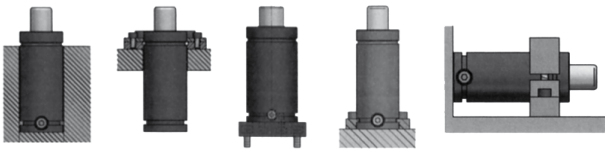
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	62	52	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
013	68	55	740	
016	74	58	740	
019	80	61	740	
025	92	67	740	
032	106	74	740	
038	118	80	740	
050	142	92	740	
063	168	105	740	
075	192	117	740	
080	202	122	740	
100	242	142	740	
125	292	167	740	







Einbaubeispiele / Flange mounting options



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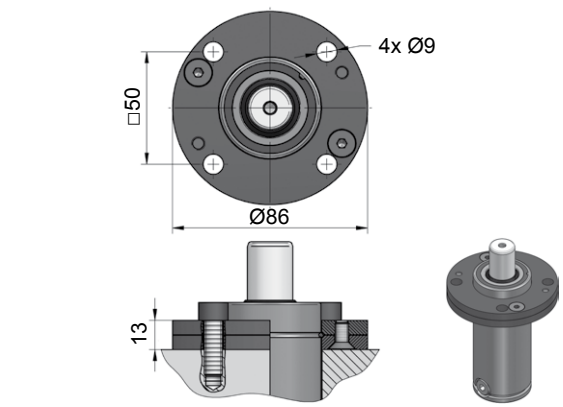
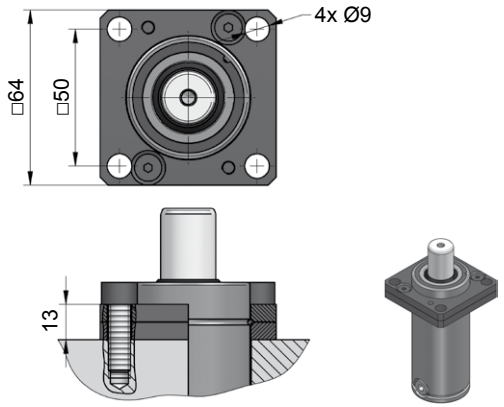
Flansche für / Flanges for **NC.028.00.00750…1**



NC.88.00.045.0114



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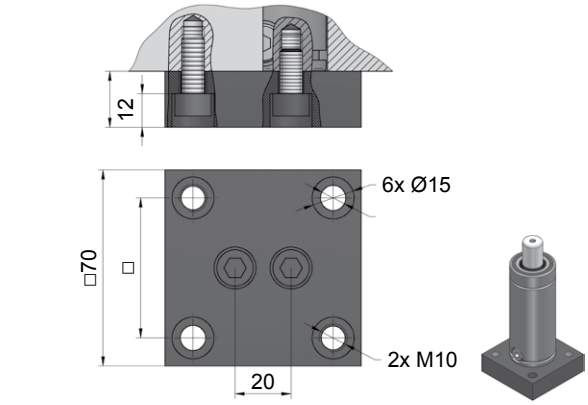

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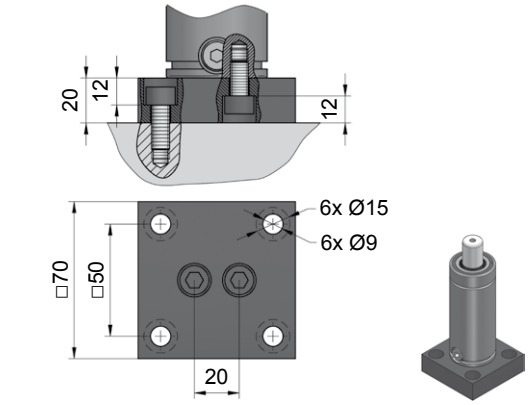
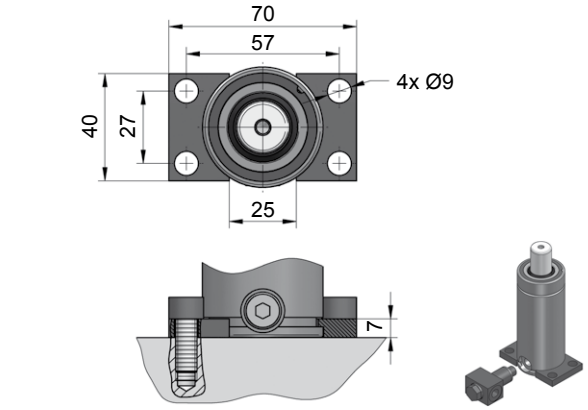


NC.88.00.045.0241



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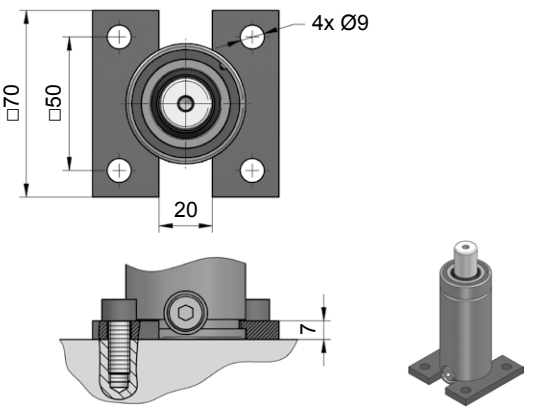
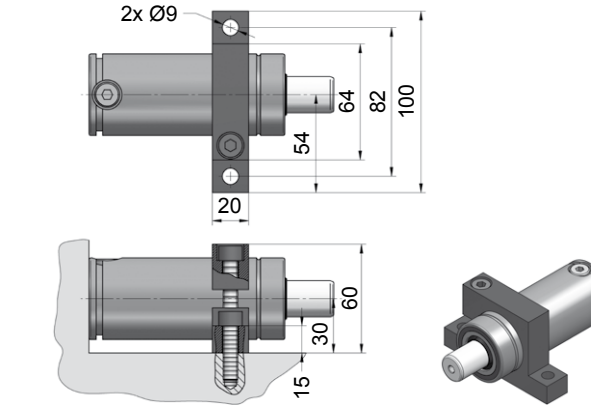
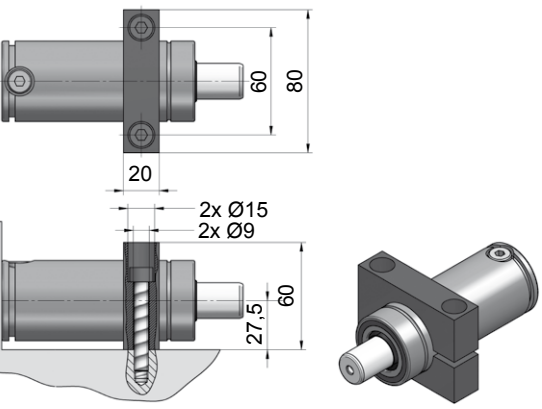


NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

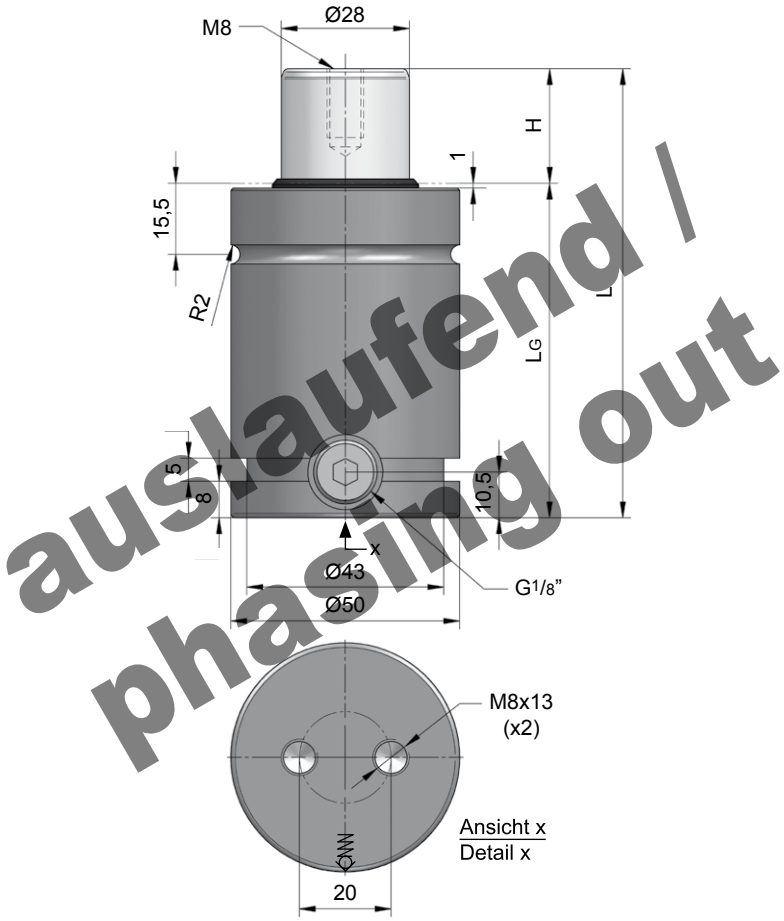
NC.028.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

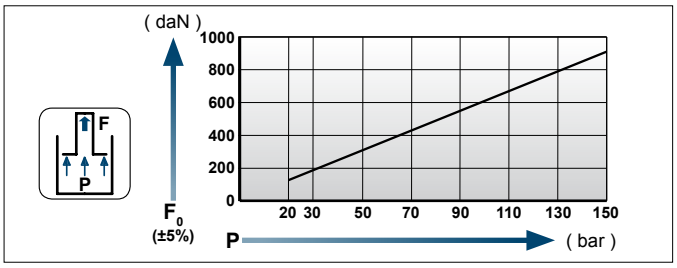
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

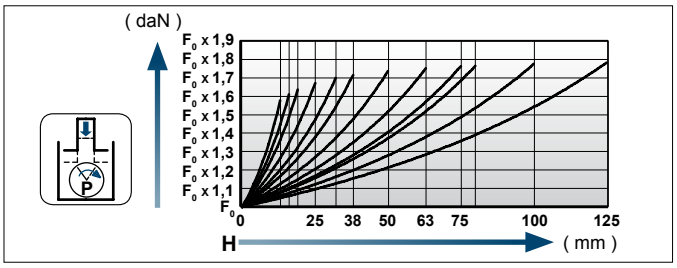


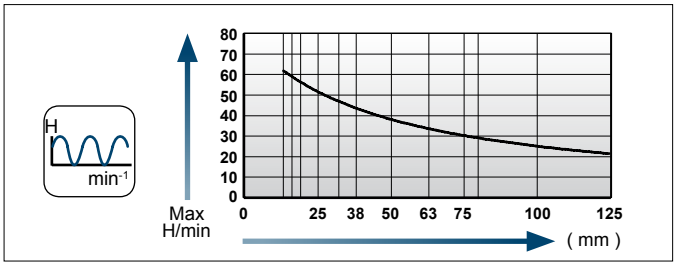
auslaufend / phasing out

NC.028.00.01000.032

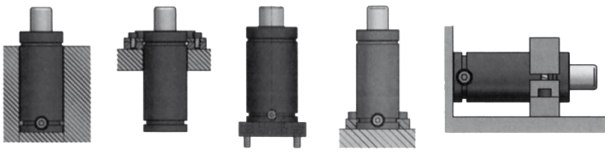
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
013	74	61	920	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	80	64	920	
019	86	67	920	
025	98	73	920	
032	112	80	920	
038	124	86	920	
050	148	98	920	
063	174	111	920	
075	198	123	920	
080	208	128	920	
100	248	148	920	
125	298	173	920	



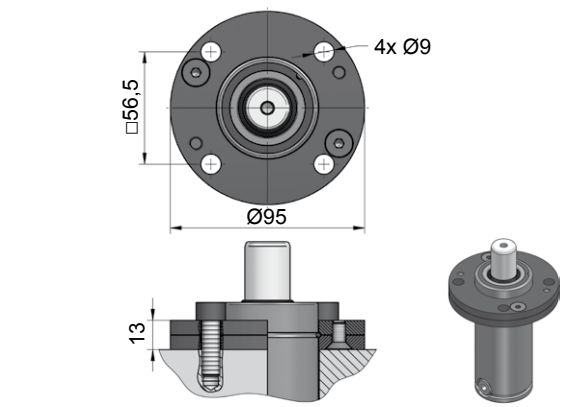




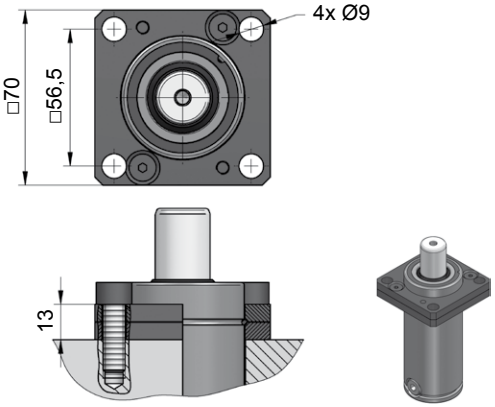
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.028.00.01000**



NC.88.00.050.0114



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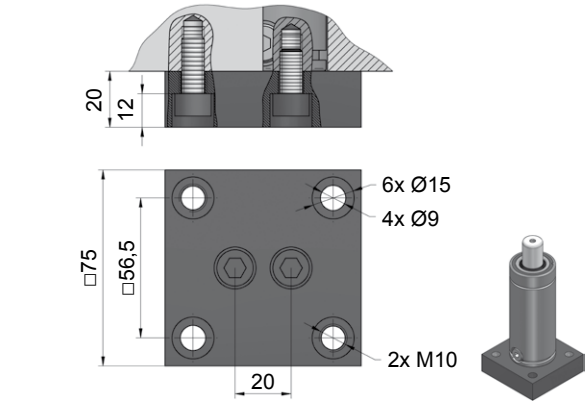

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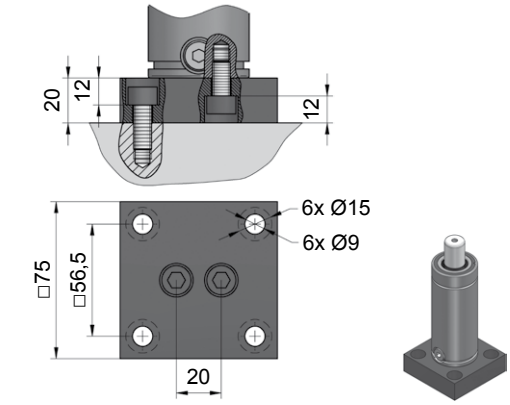
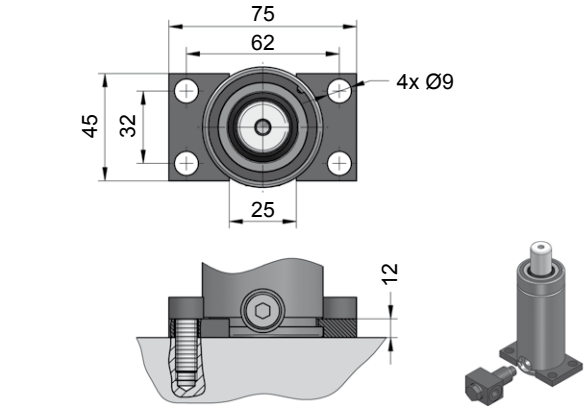


NC.88.00.050.0241



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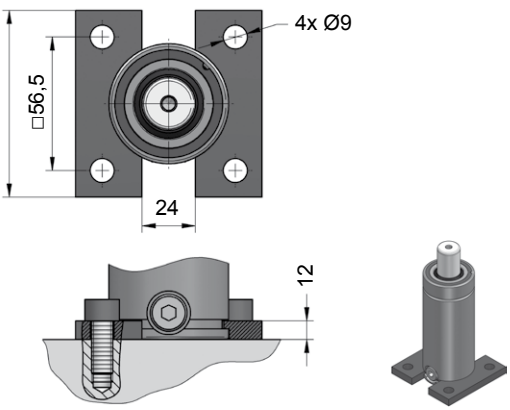
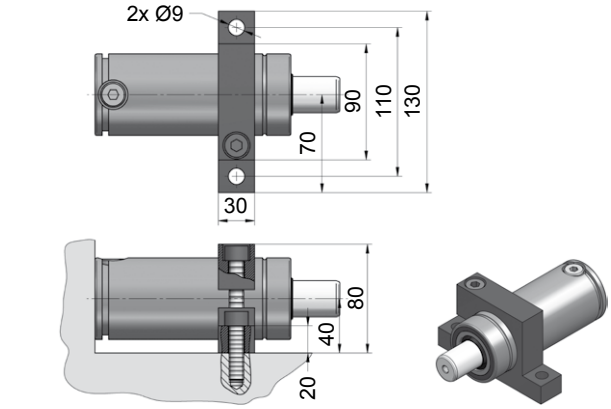
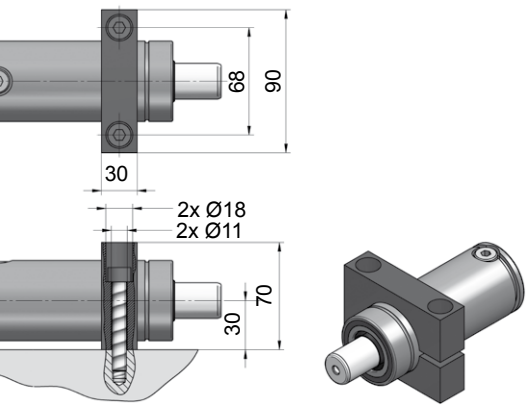


NC.88.00.050.0320



NC.88.00.050.0402



NC.88.00.050.0467

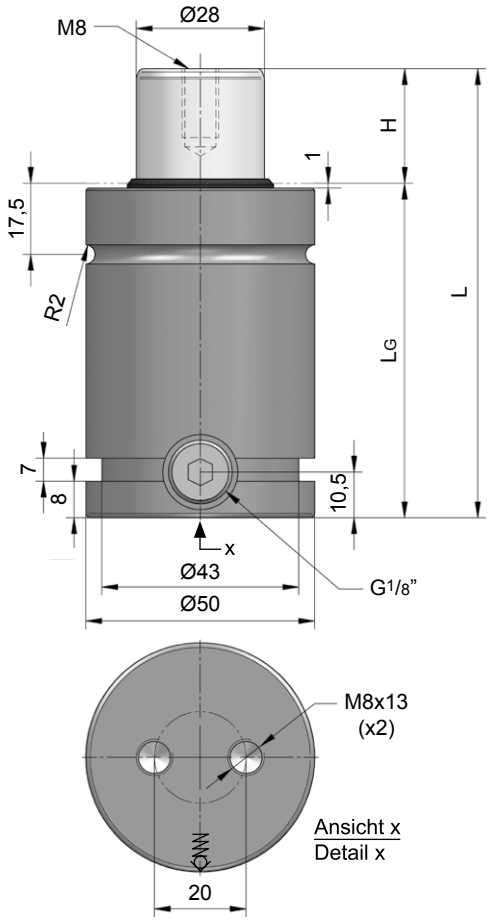
NC.028.00.01000...1

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

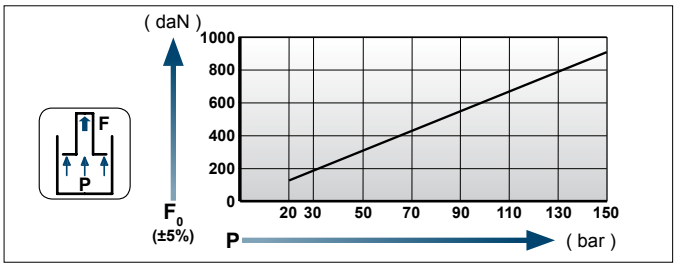
Specifications:

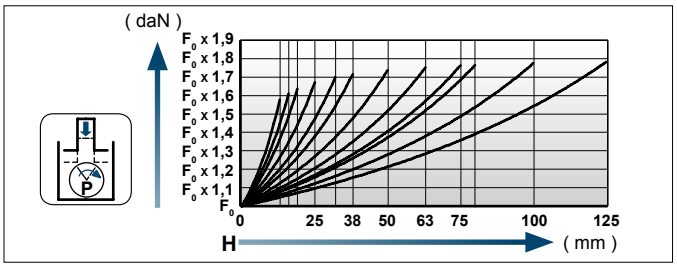
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

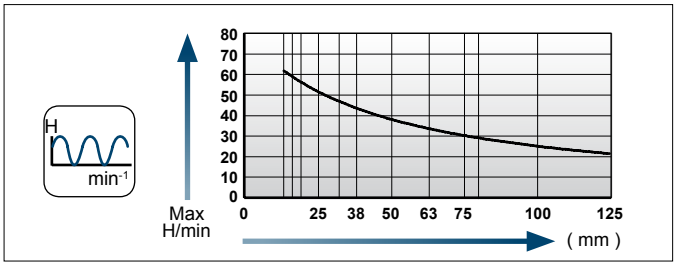


NC.028.00.01000.032.1

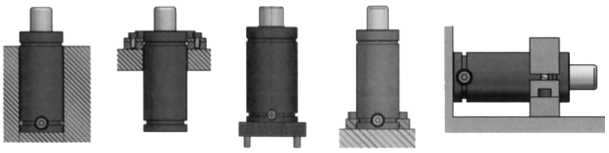
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
013	74	61	920	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	80	64	920	
019	86	67	920	
025	98	73	920	
032	112	80	920	
038	124	86	920	
050	148	98	920	
063	174	111	920	
075	198	123	920	
080	208	128	920	
100	248	148	920	
125	298	173	920	



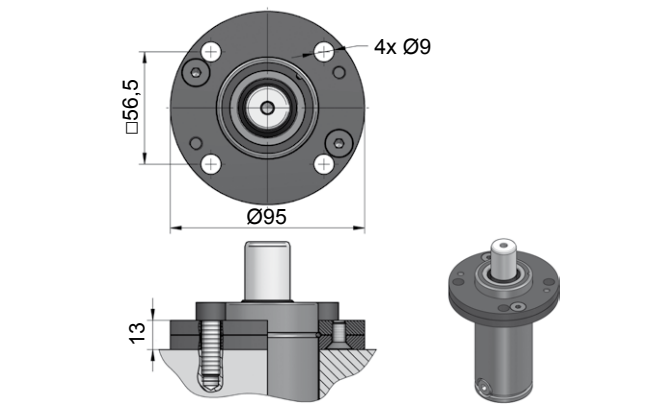




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.028.00.01000…1**



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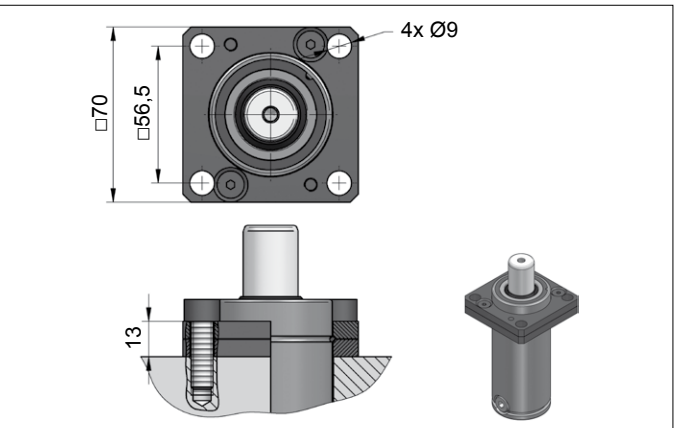

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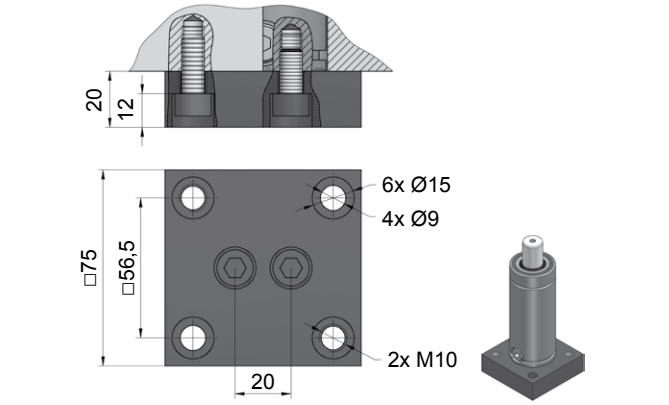
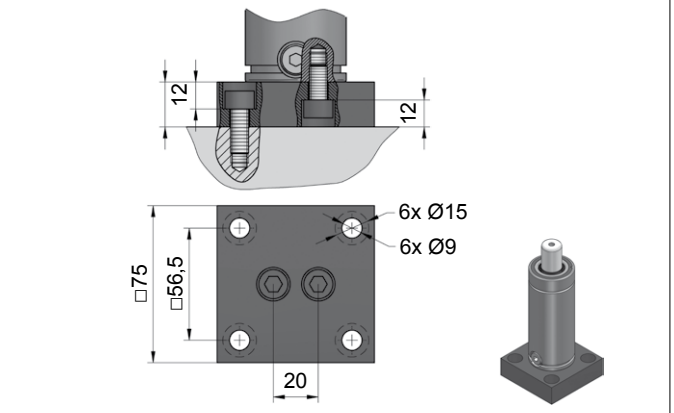


NC.88.00.050.0236



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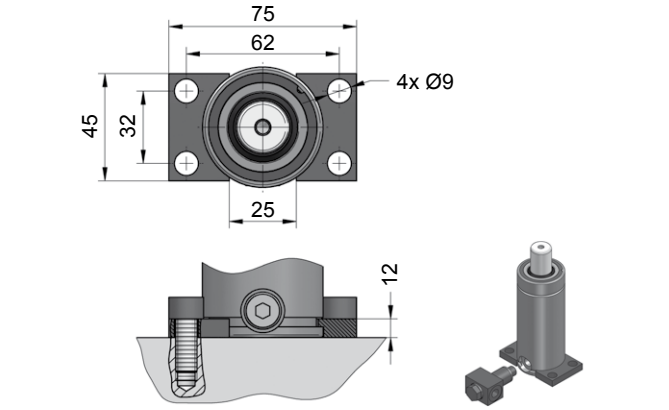

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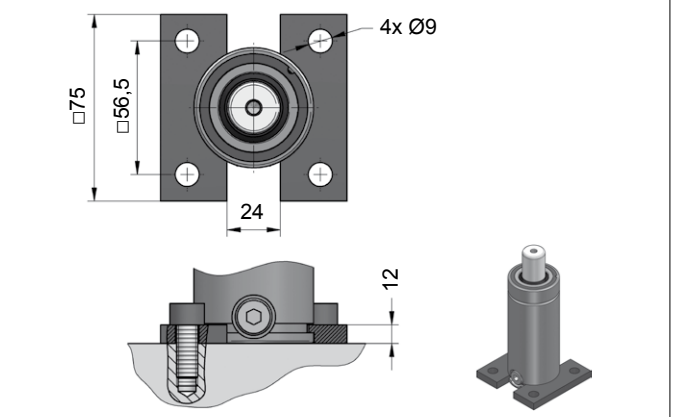

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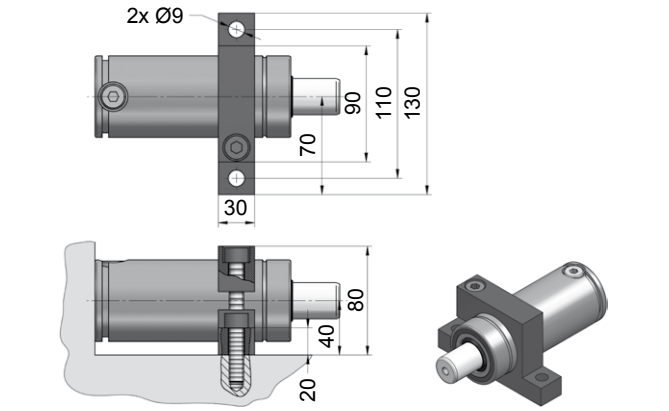
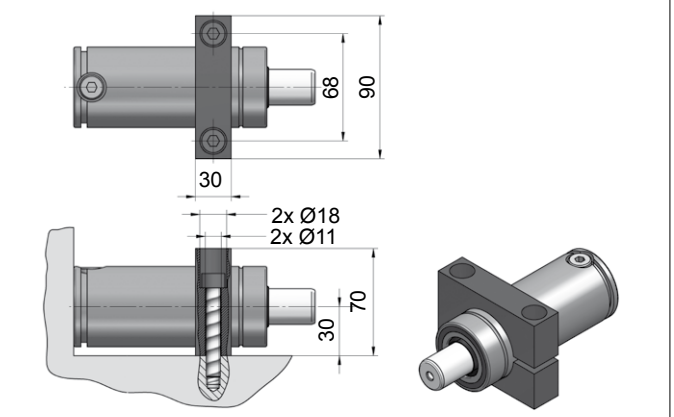


NC.88.00.050.0402



NC.88.00.050.0467

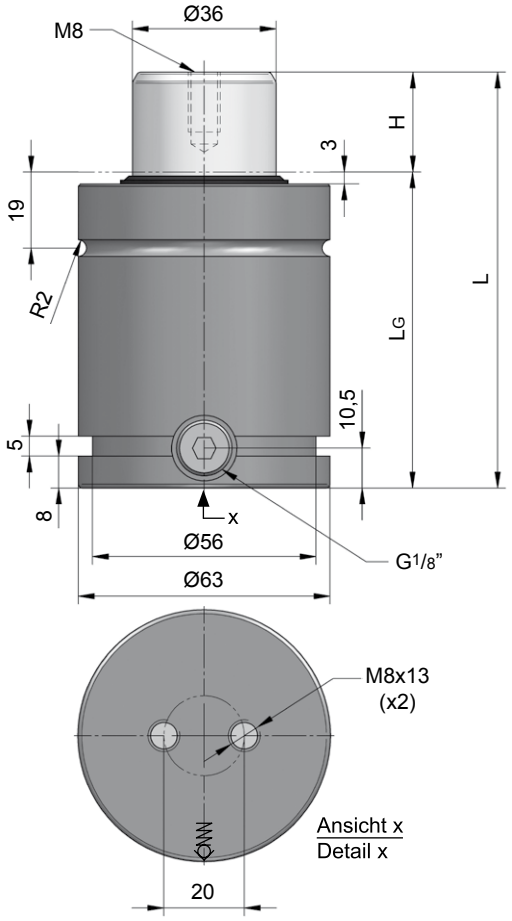
NC.028.00.01500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

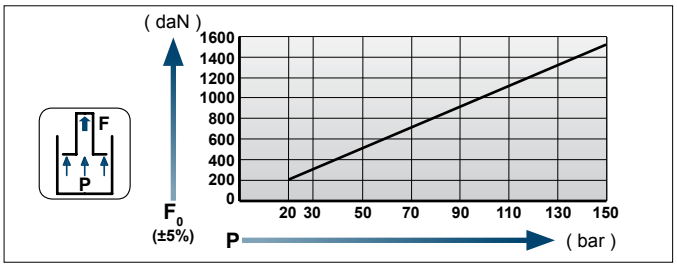
Specifications:

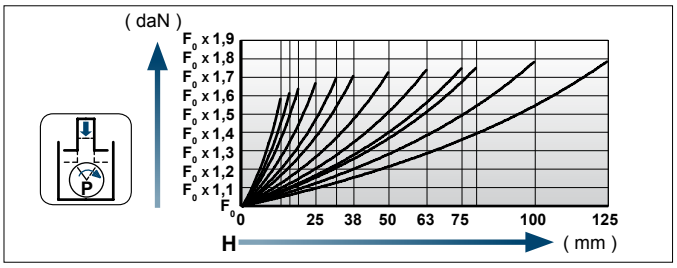
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

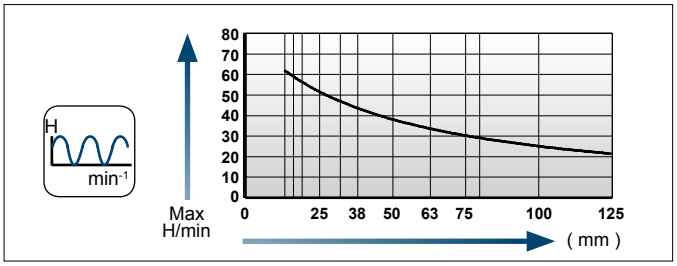


NC.028.00.
01500.050

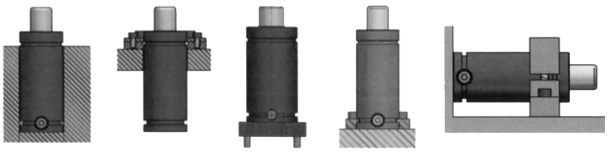
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
013	80	67	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	86	70	1530	
019	92	73	1530	
025	104	79	1530	
032	118	86	1530	
038	130	92	1530	
050	154	104	1530	
063	180	117	1530	
075	204	129	1530	
080	214	134	1530	
100	254	154	1530	
125	304	179	1530	



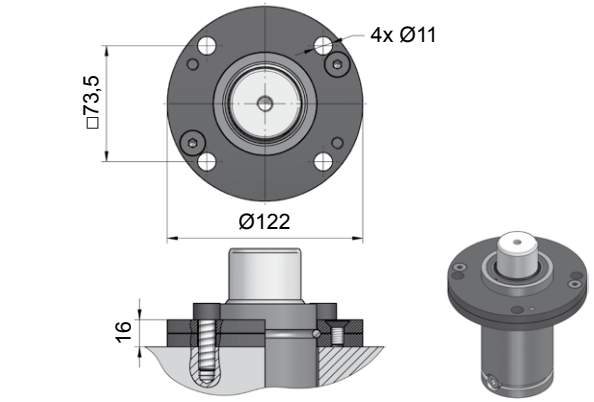




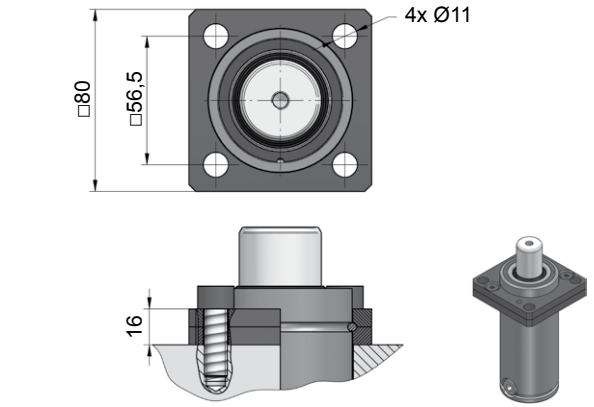
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.028.00.01500**



NC.88.00.063.0114



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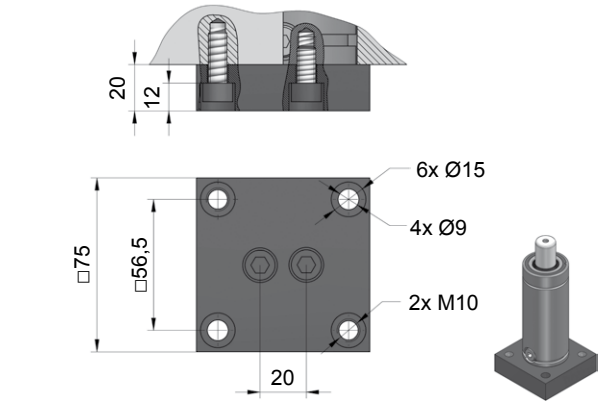

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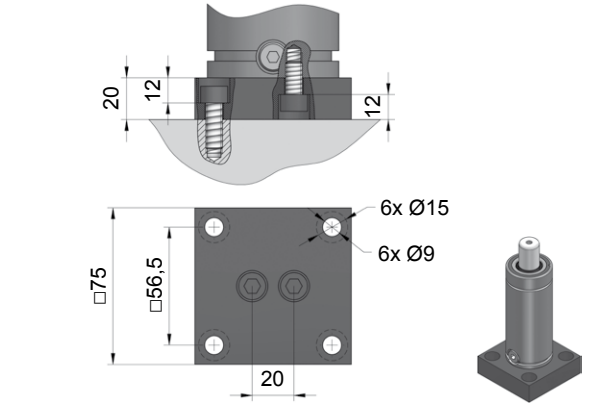
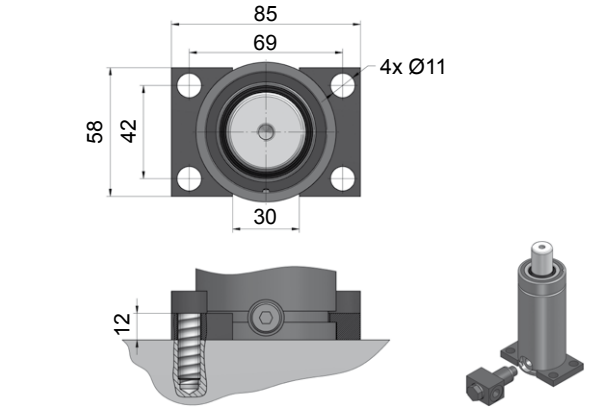


NC.88.00.063.0241



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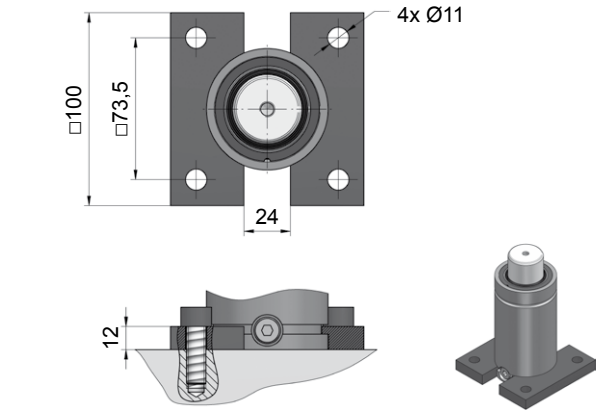

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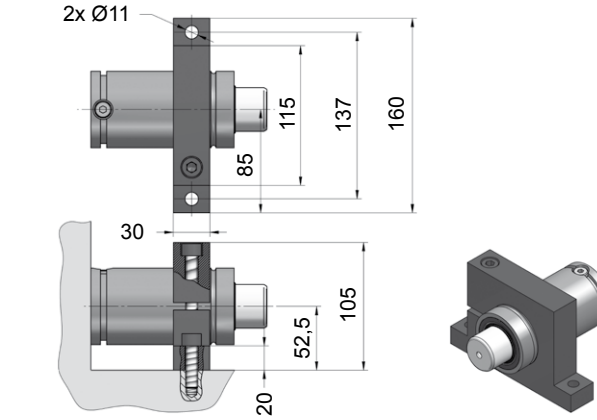

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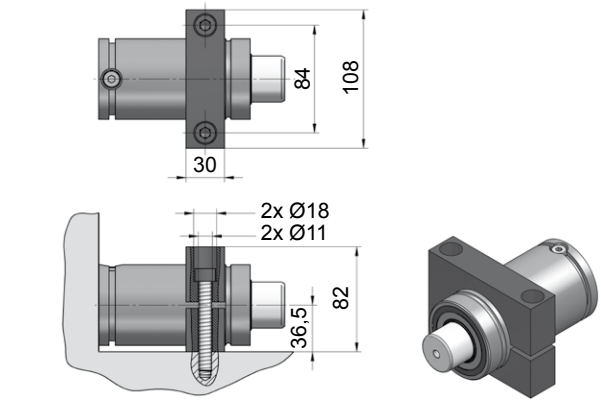


NC.88.00.063.0467

NC.028.00.02400

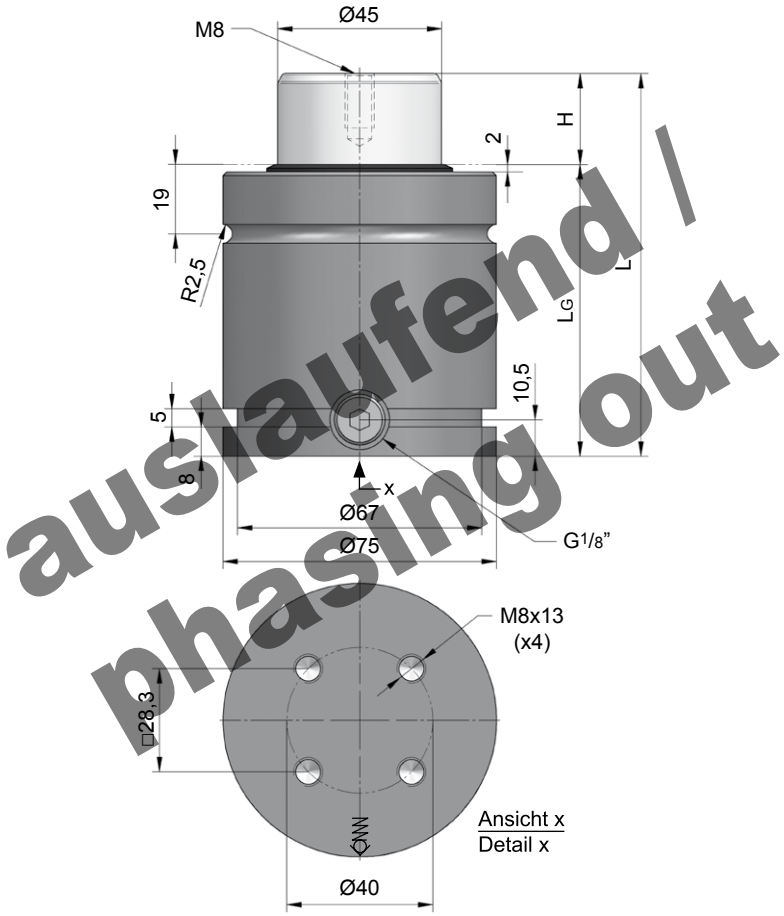
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

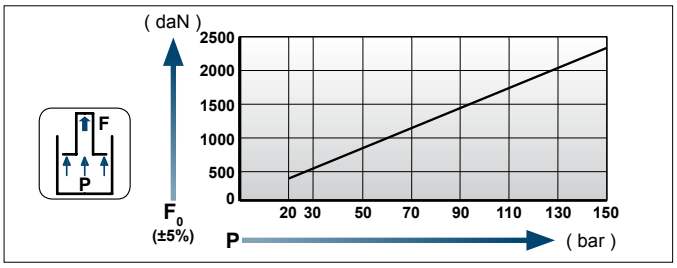
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

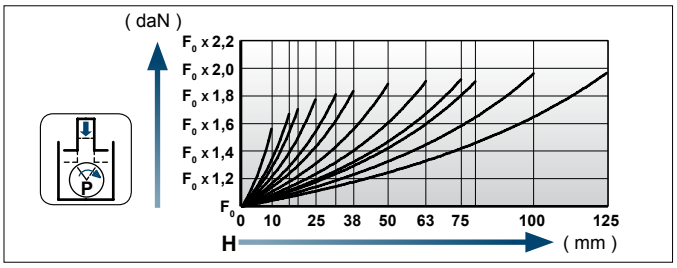
NC.028.00.02400.075

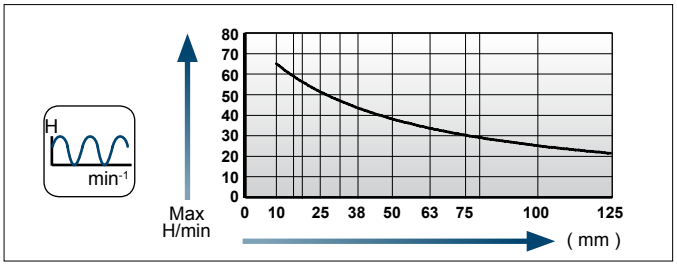


auslaufend / phasing out

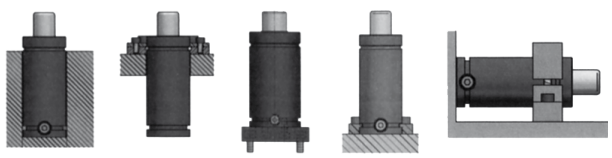
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	75	65	2385	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	87	71	2385	
019	93	74	2385	
025	105	80	2385	
032	119	87	2385	
038	131	93	2385	
050	155	105	2385	
063	181	118	2385	
075	205	130	2385	
080	215	135	2385	
100	255	155	2385	
125	305	180	2385	



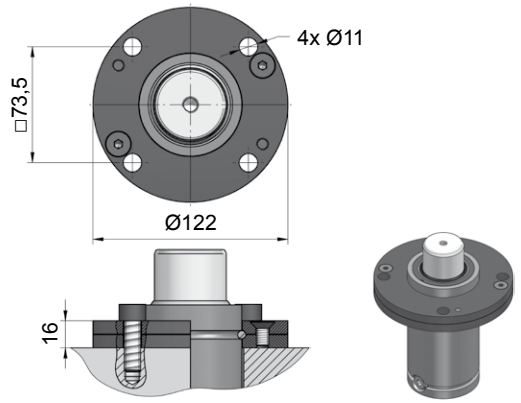




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.028.00.02400**



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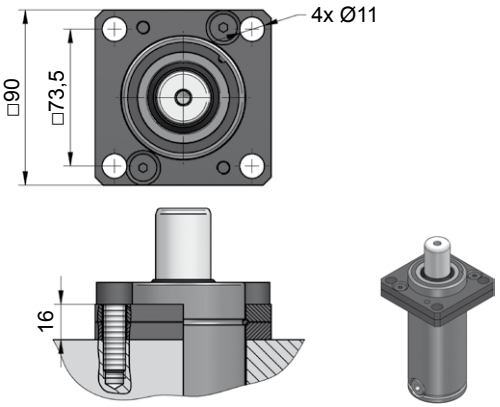

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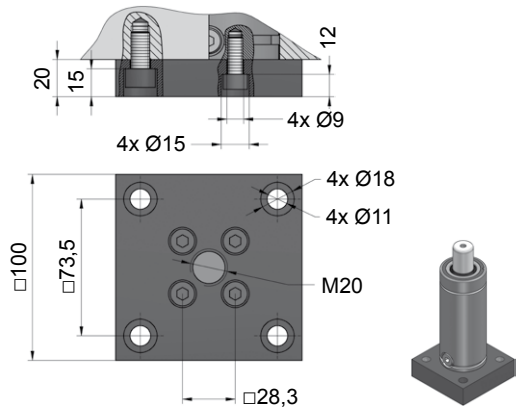

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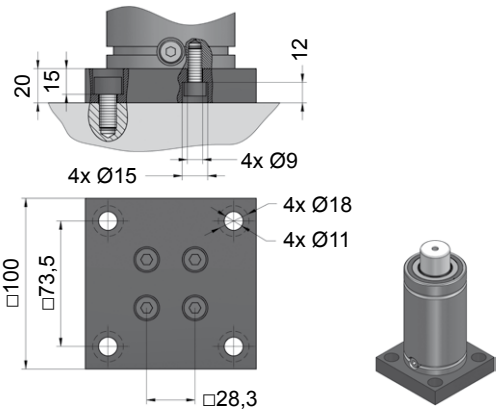

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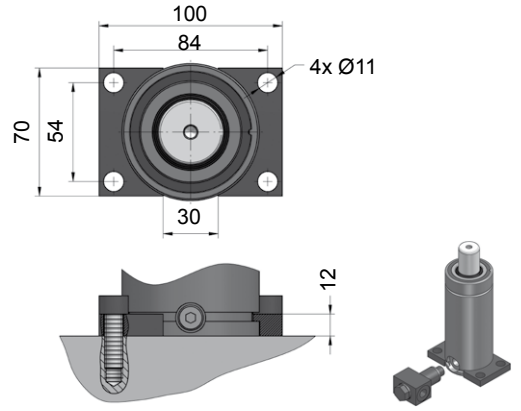

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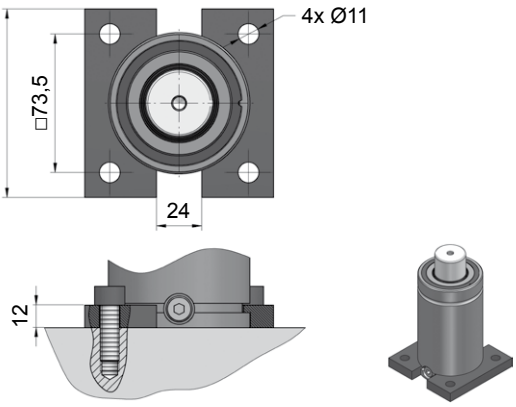

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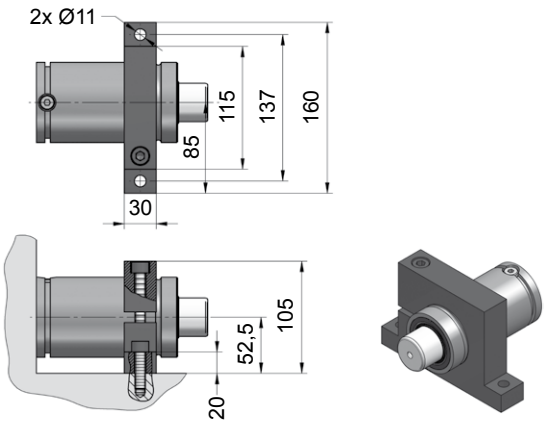

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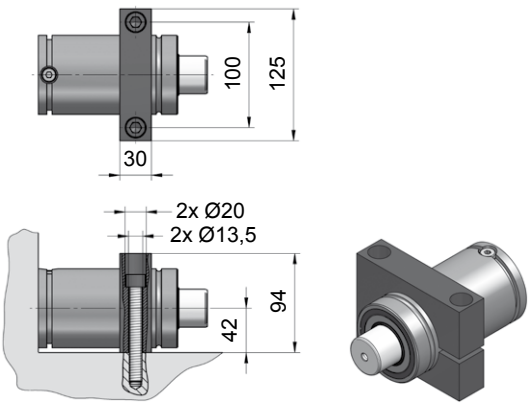


NC.88.00.075.0467

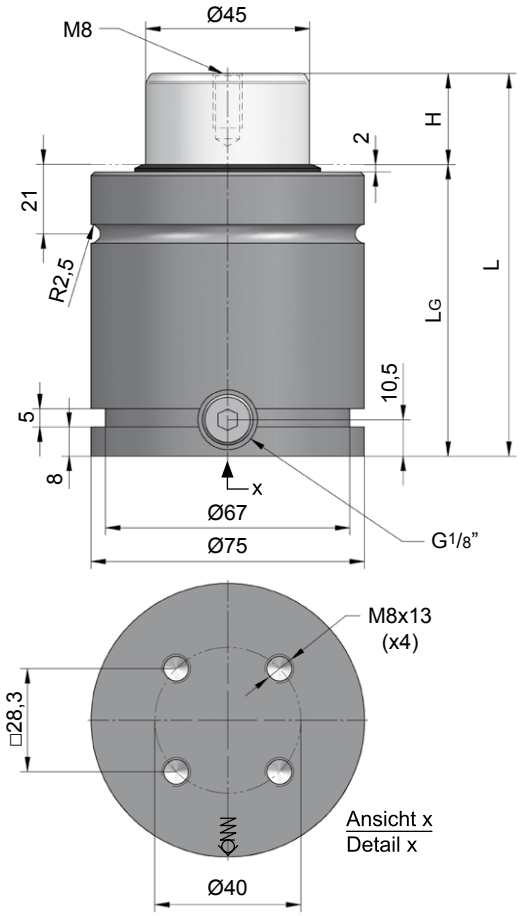
NC.028.00.02400...1

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

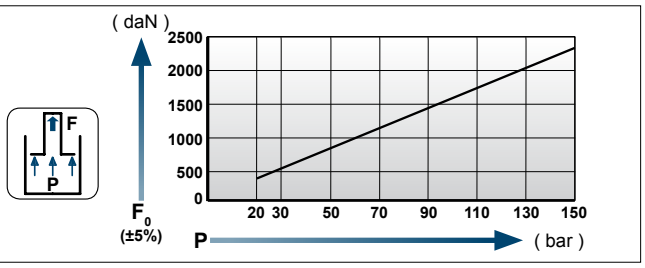
Specifications:

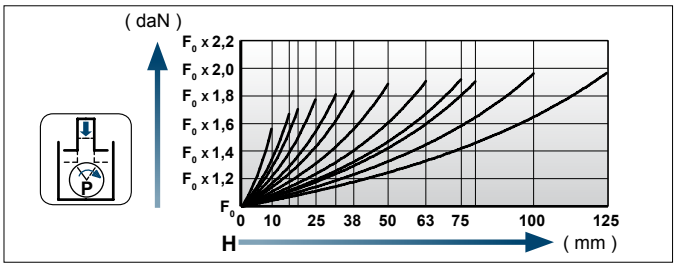
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

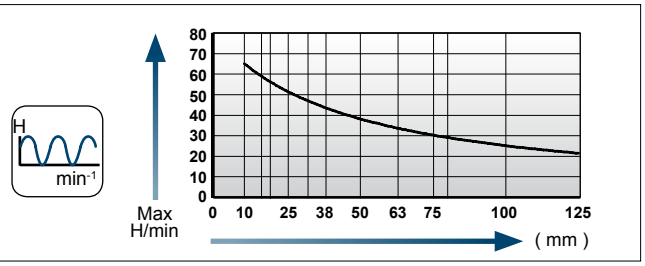


NC.028.00.02400.075.1

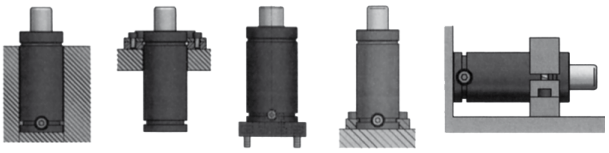
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	75	65	2385	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	87	71	2385	
019	93	74	2385	
025	105	80	2385	
032	119	87	2385	
038	131	93	2385	
050	155	105	2385	
063	181	118	2385	
075	205	130	2385	
080	215	135	2385	
100	255	155	2385	
125	305	180	2385	



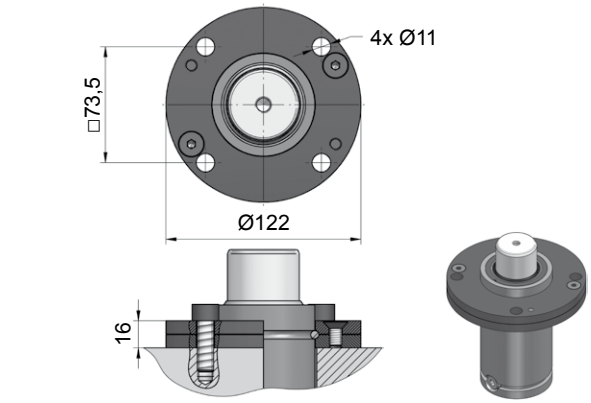




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.028.00.02400...1**



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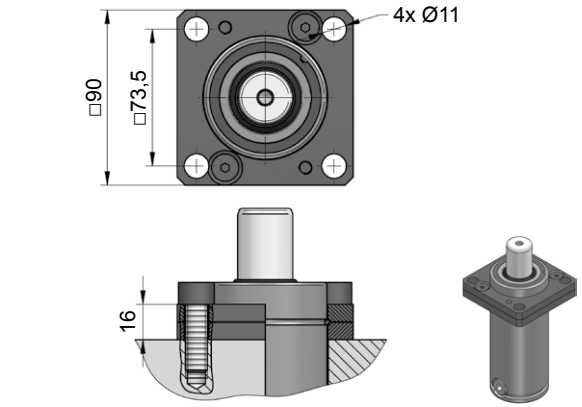

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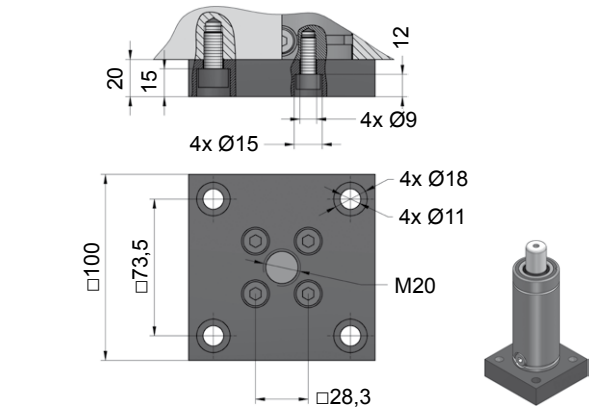

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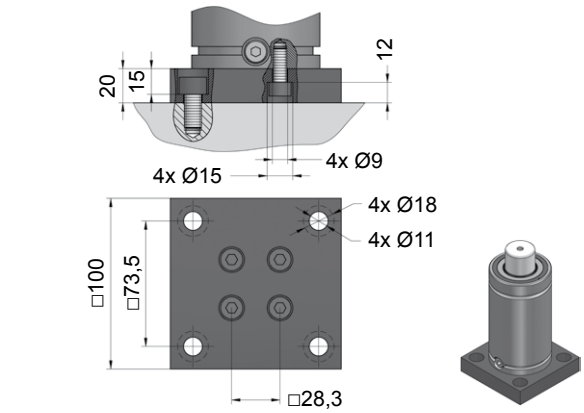

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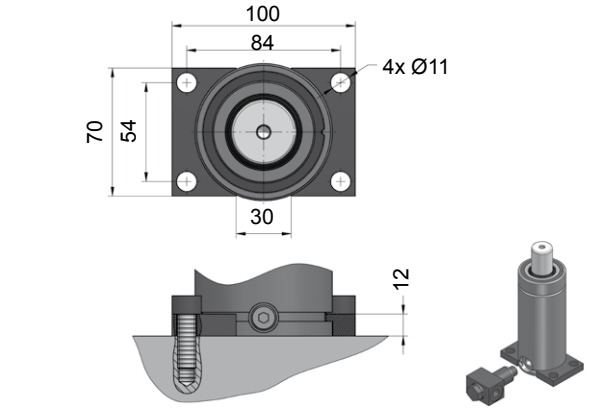

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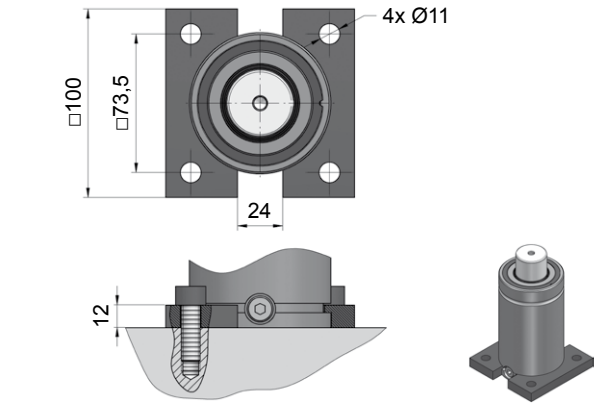

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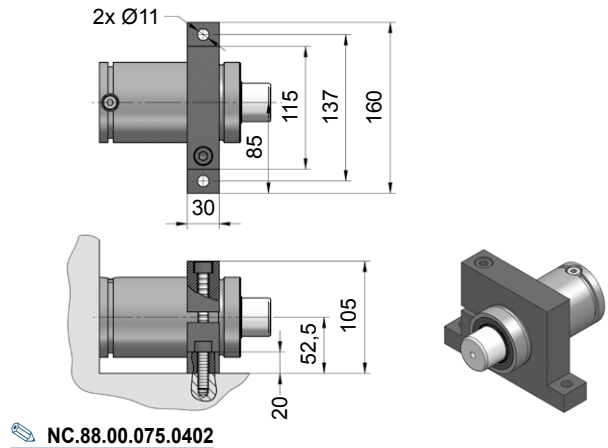

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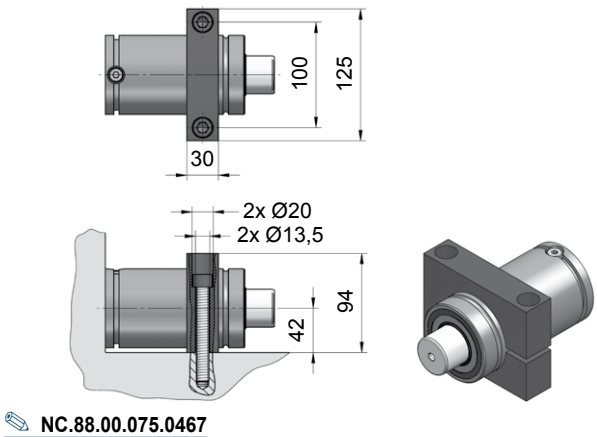


NC.88.00.075.0467

Technische Information Serie NC.030.00

Beim Einsatz von Gasdruckfedern ist darauf zu achten, dass diese vor Schmutz, Ziehölen und sonstigen Fluiden geschützt werden. Zwar verfügen die meisten Gasdruckfedern über einen Schmutzabstreifer, der das Eindringen von Fremdkörpern verhindern soll, allerdings besteht der beste Schutz darin, erst gar keine Verunreinigung an die Zylinder kommen zu lassen.

Die Gasdruckfedern der **NC.030**-Serie haben einen besonderen Aufbau (Kolben mit Kolbenkopf). Bei diesem Zylinder-Typ entsteht an der Zylinder-Oberseite ein Saugeffekt, der Flüssigkeiten oder Schmutz in den Zylinder-innenraum ziehen kann. Da sich der Raum für den Stickstoff dadurch verringert, entsteht ein kontinuierlich ansteigender Druck, der letztendlich zum frühzeitigen Ausfall des Zylinders führen kann. Aus diesem Grund müssen die Gasdruckfedern **NC.030** konsequent gegen Verunreinigung geschützt werden.

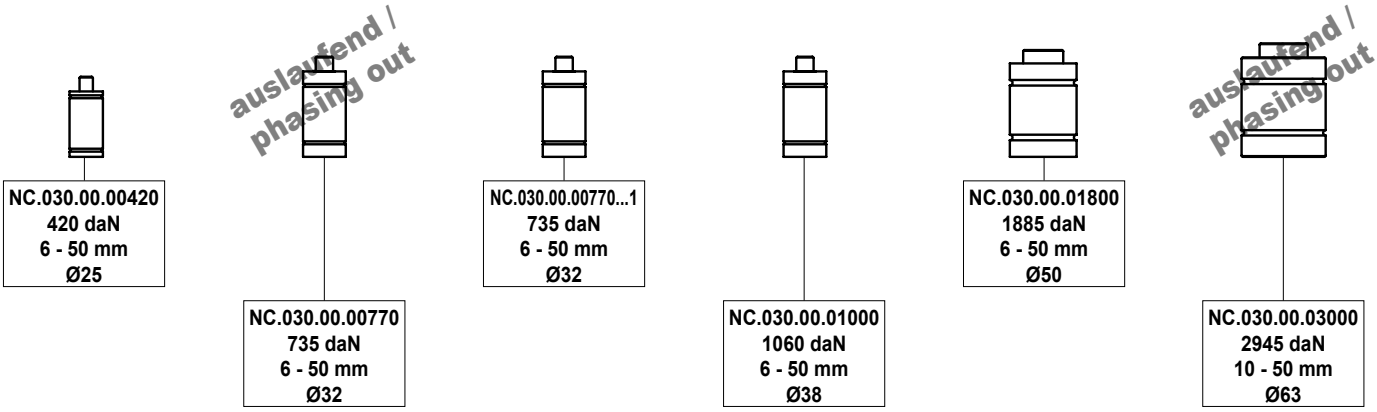
Technical information NC.030.00 series

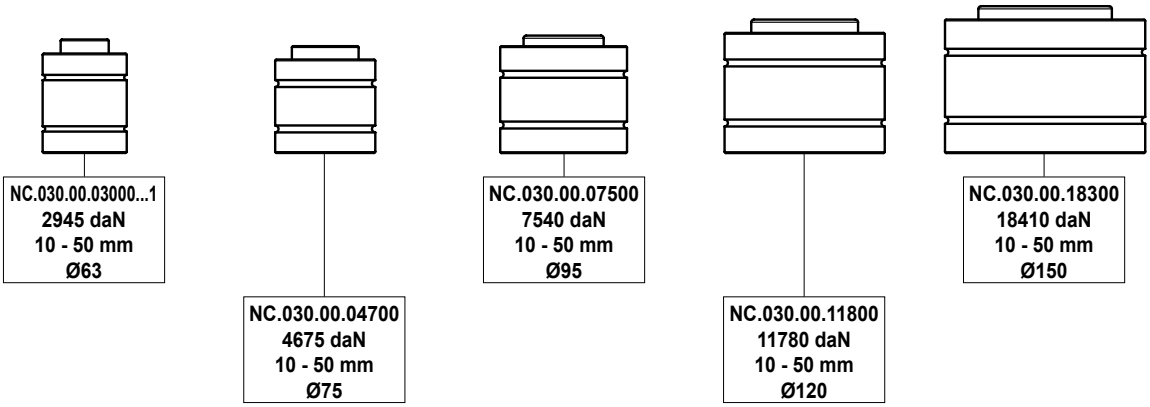
Using gas springs it is mandatory to protect them from dirt, oil and similar fluids. For that reason, most springs have a plastic dirt-scraper, to prevent the penetration of these external particles. However, the best protection is not to let any dirt get to the springs at all in the first place.

Due to the specific design of the **NC.030.00**-gas springs there is a „sucking“ effect at the top of the cylinder body. This effect can lead to foreign particles being pulled inside. Since the room designated for the nitrogne thereby continously decreases, the cylinder life - time may be negatively affected. It is for this reason, that the gas springs of this series must be well protected against dirt and fluids.

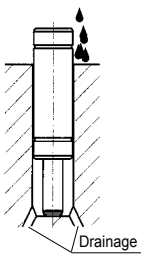
Größenübersicht Serie NC.030.00

Gas spring index NC.030.00 series

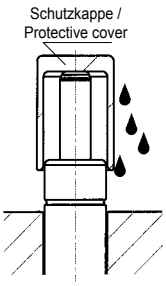




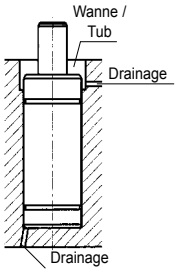
Gasdruckfeder-Einbau „über Kopf“ mit Drainage im Boden /
Upside-Down - Application, drain-hole at the bottom



Gasdruckfeder mit Schutzkappe /
Gas spring with protective cover



„Wanne“ mit Drainage oben, zusätzlich Boden-Drainage /
Cavity with upper drain-hole, additional drain hole at the bottom



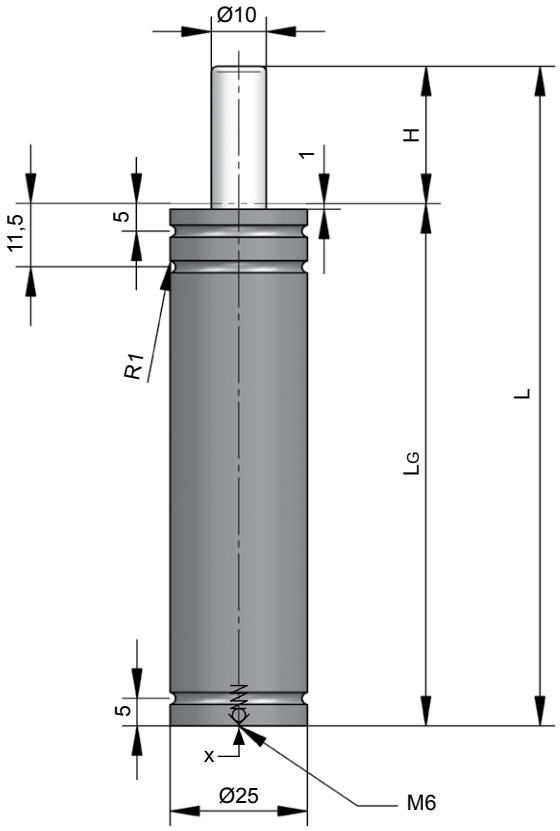
NC.030.00.00420

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	165 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s
Ventil:	**NCR.99.082**

Specifications:

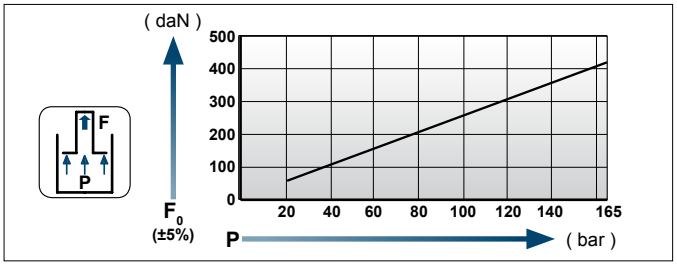
Pressure medium:	N_2
$P_{max.}$ (20 °C):	165 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s
Valve:	**NCR.99.082**

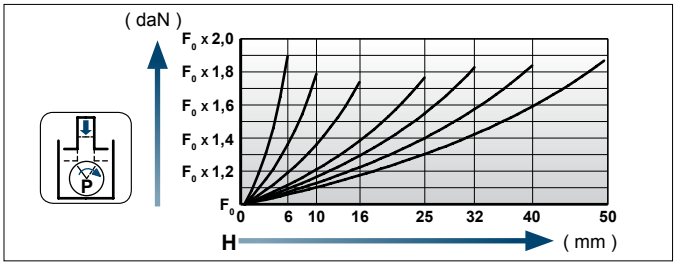


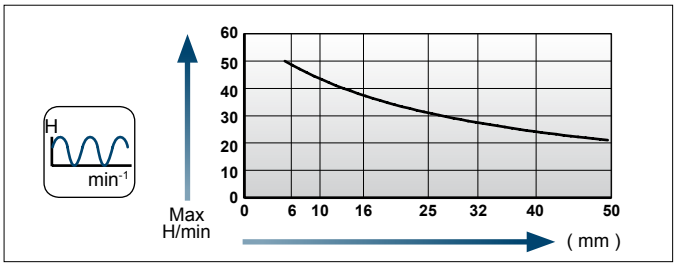
Ansicht x
Detail x

NC.030.00.00420.032

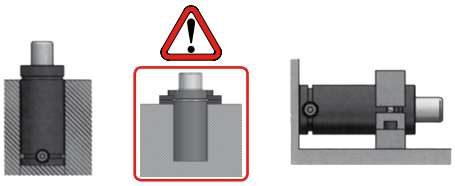
H Hub / Stroke	L ±0,25	LG	Kraft / Force (165 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	56	50	420	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	70	60	420	
016	91	75	420	
025	120	95	420	
032	140	108	420	
040	165	125	420	
050	195	145	420	





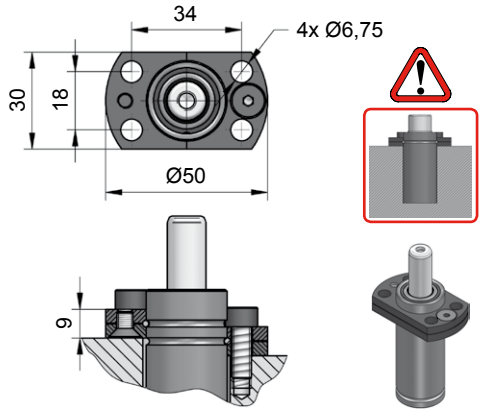


Einbaubeispiele / Flange mounting options

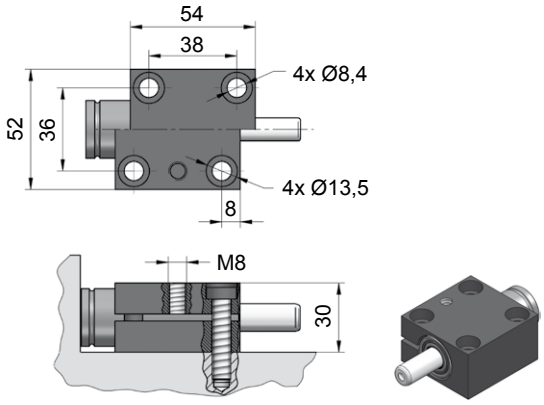


[NC]

Flansche für / Flanges for **NC.030.00.00420**



NC.88.00.025.0144



NC.88.00.025.0402

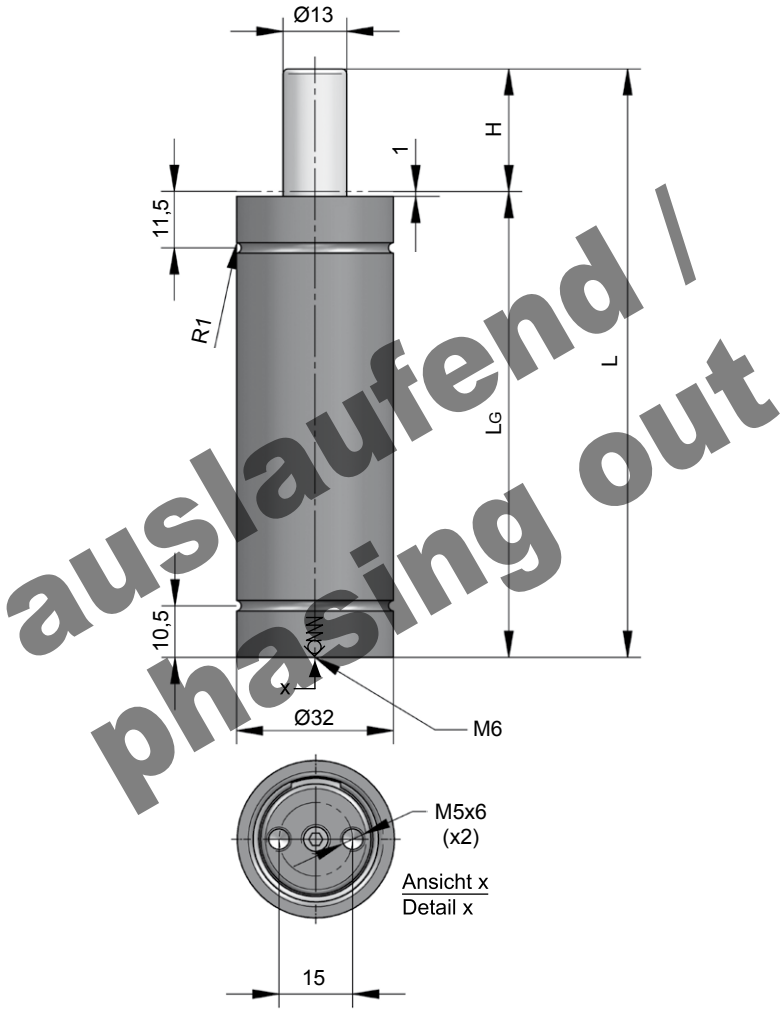
NC.030.00.00770

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

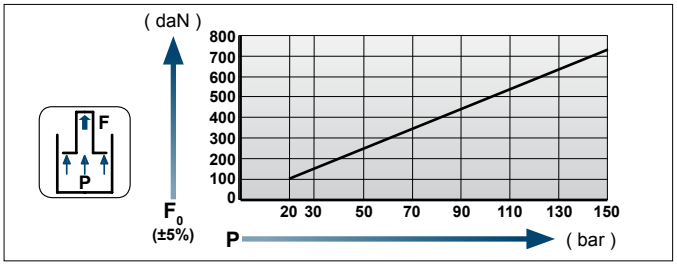
Specifications:

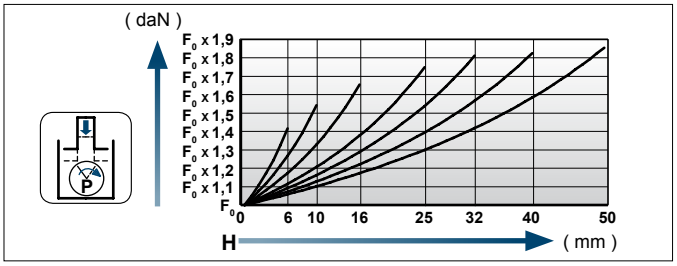
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

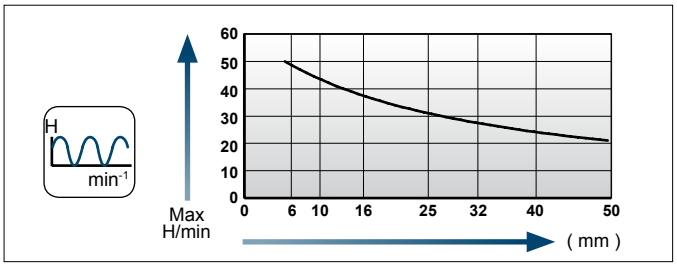


NC.030.00.00770.032

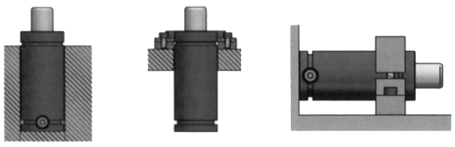
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	63	57	735	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	75	65	735	
016	93	77	735	
025	120	95	735	
032	140	108	735	
040	165	125	735	
050	195	145	735	





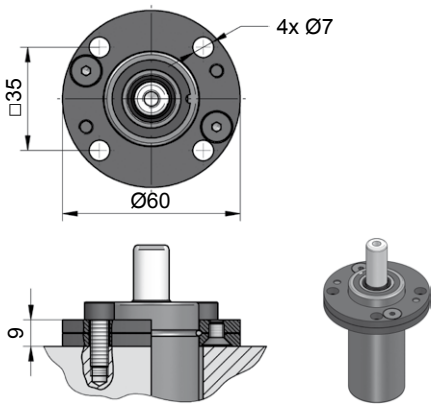


Einbaubeispiele / Flange mounting options

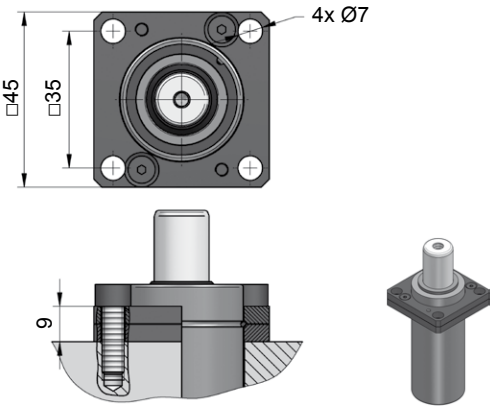


[NC]

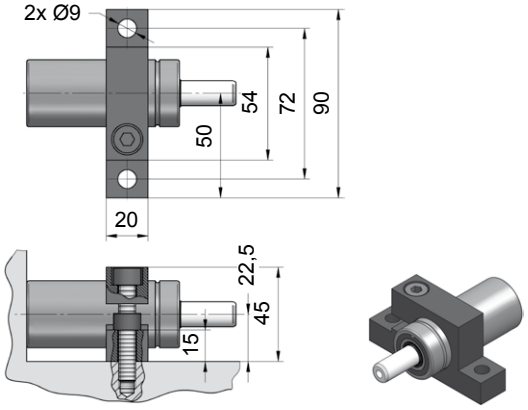
Flansche für / Flanges for **NC.030.00.00770**



NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0402

NC.030.00.00770...1

NEU! NEW!

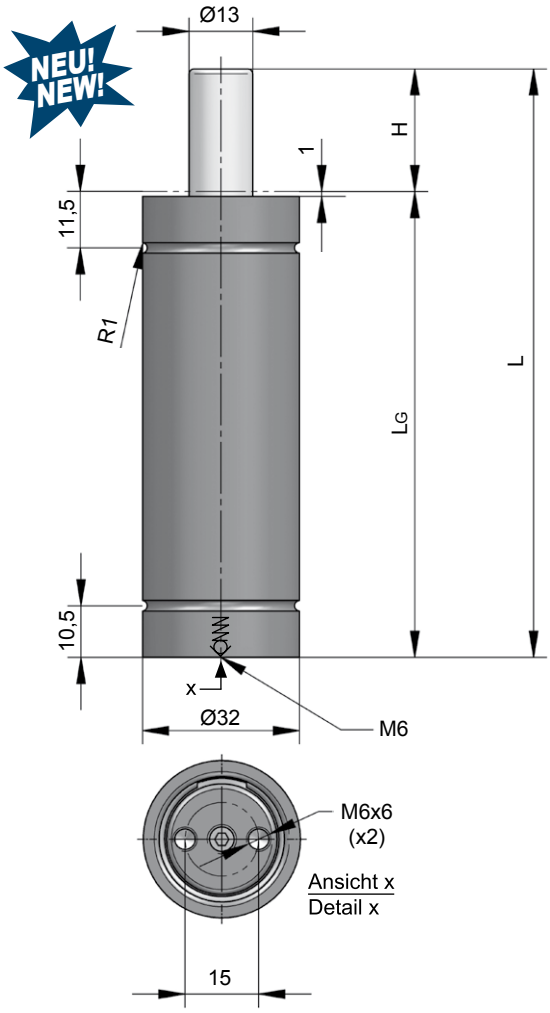
ZUGELASSEN PED 97/23/EG

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

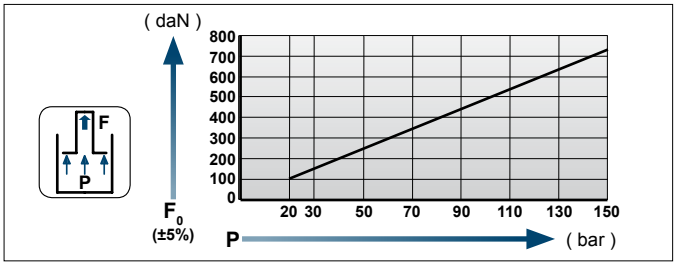
Specifications:

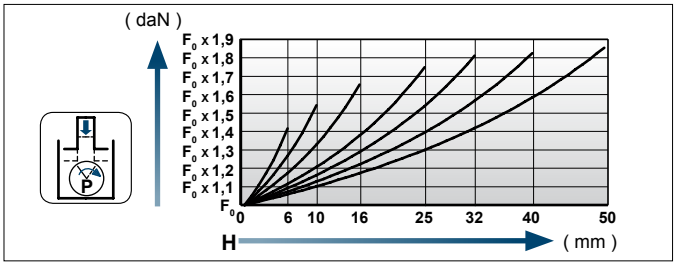
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

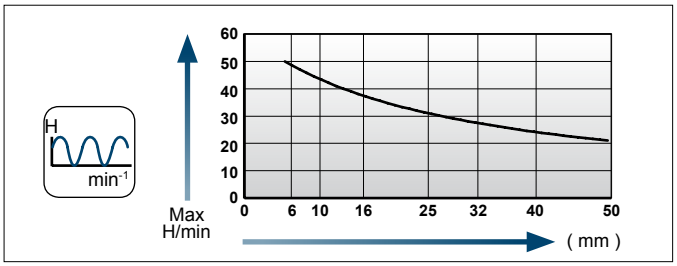


NC.030.00.00770.032.1

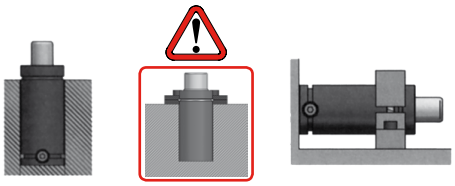
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	63	57	735	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	75	65	735	
016	93	77	735	
025	120	95	735	
032	140	108	735	
040	165	125	735	
050	195	145	735	





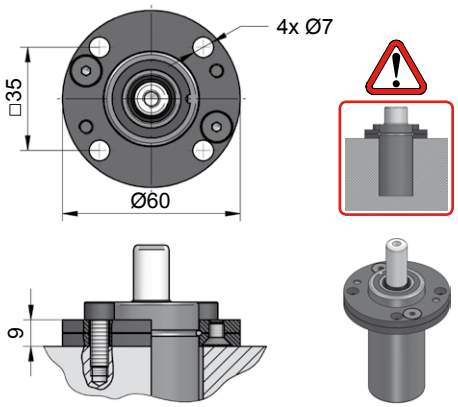


Einbaubeispiele / Flange mounting options

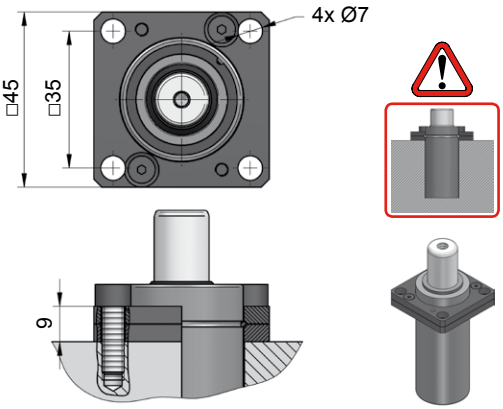


[NC]

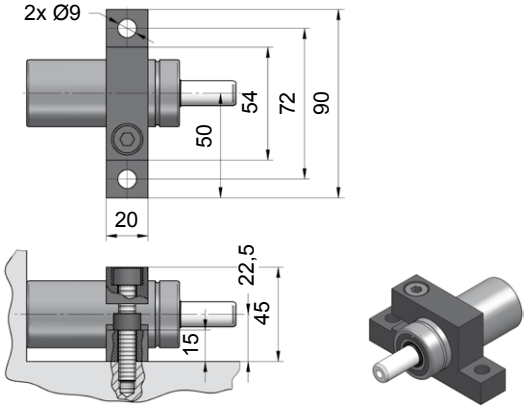
Flansche für / Flanges for **NC.030.00.00770…1**



NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0402

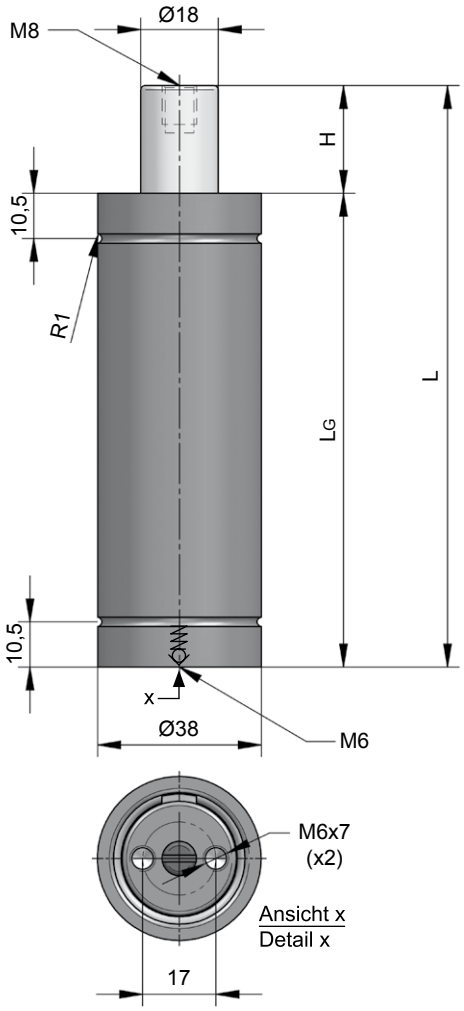
NC.030.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

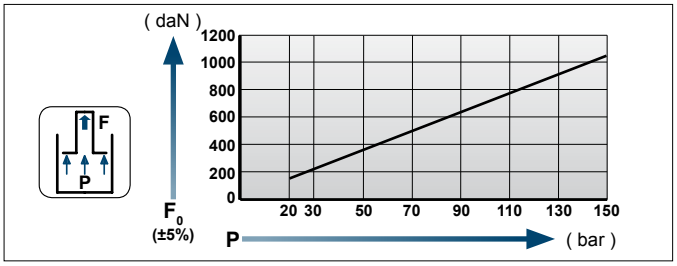
Specifications:

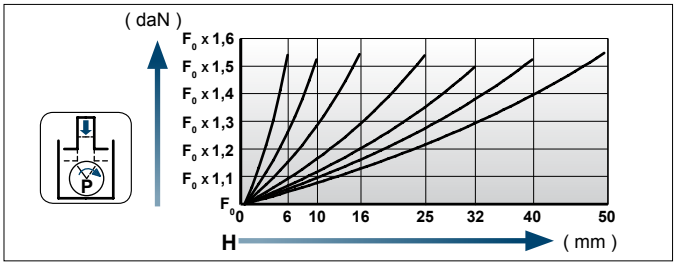
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

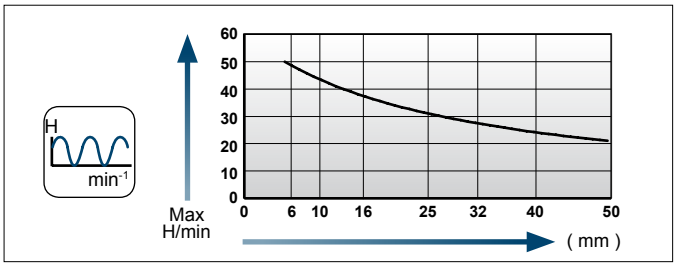


NC.030.00.01000.016

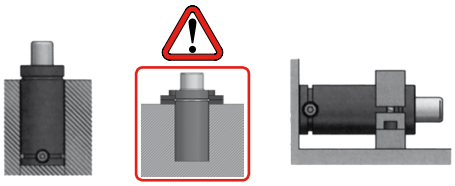
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	61	55	1060	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	77	67	1060	
016	100	84	1060	
025	135	110	1060	
032	167	135	1060	
040	195	155	1060	
050	230	180	1060	



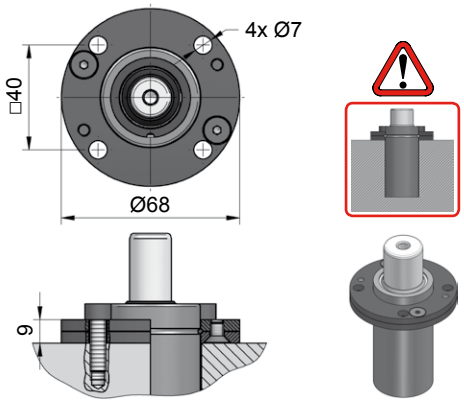




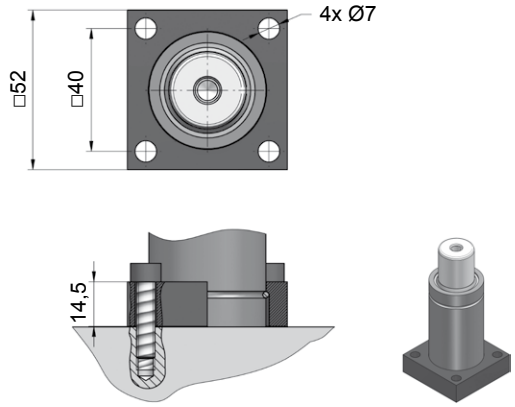
Einbaubeispiele / Flange mounting options



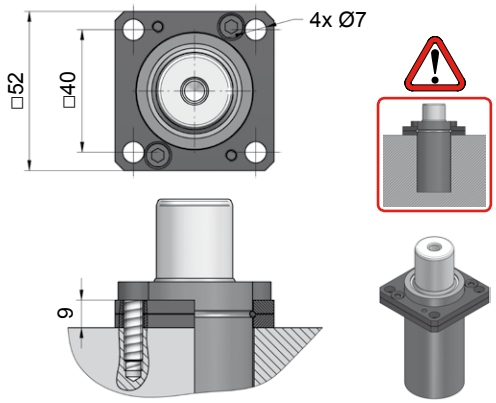
Flansche für / Flanges for **NC.030.00.01000**



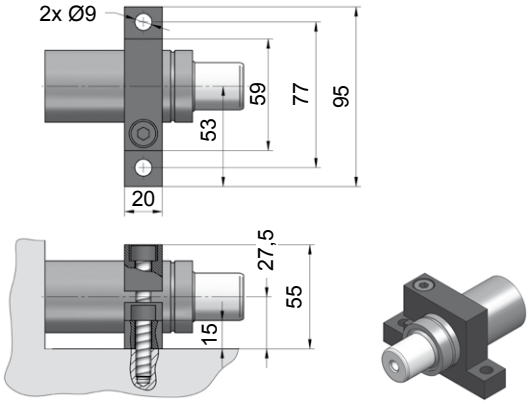
NC.88.00.038.0114



NC.88.00.038.0119



NC.88.00.038.0134



NC.88.00.038.0402

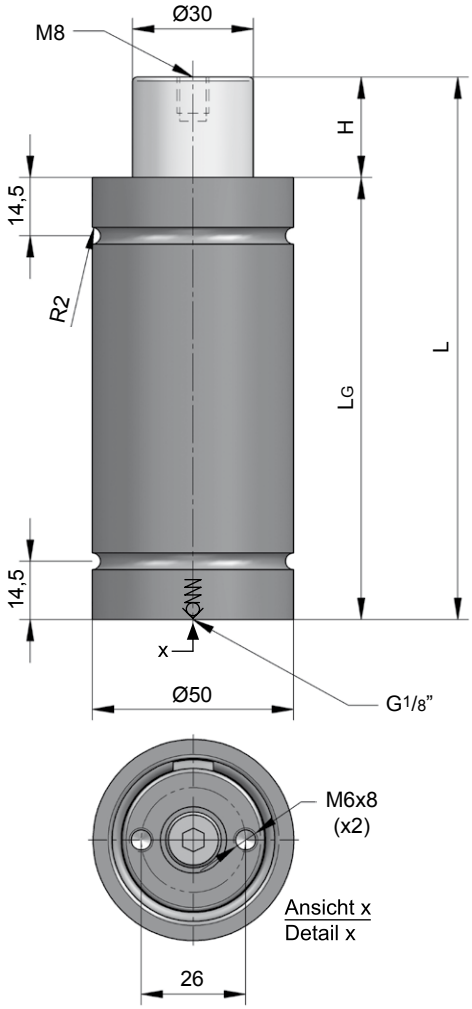
NC.030.00.01800

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

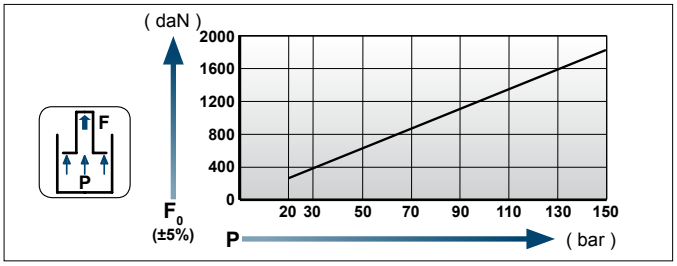
Specifications:

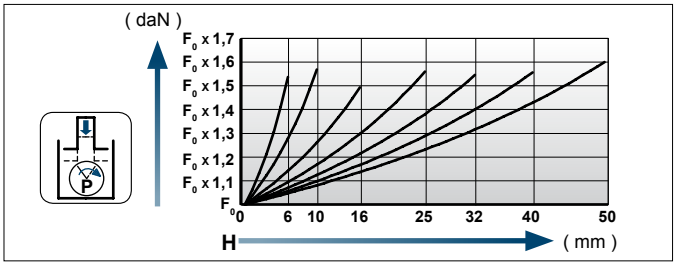
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

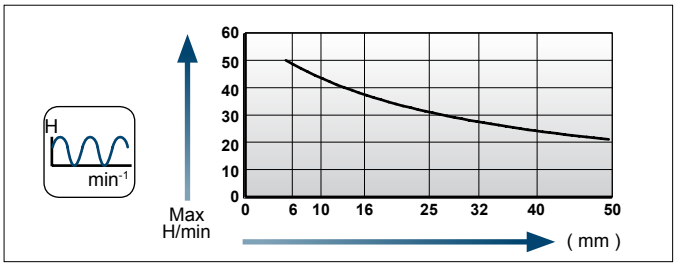


NC.030.00.01800.025

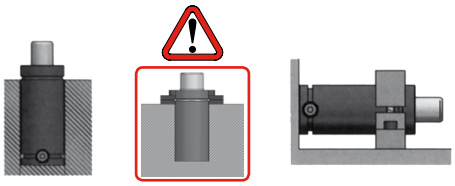
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	66	60	1885	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	80	70	1885	
016	106	90	1885	
025	135	110	1885	
032	162	130	1885	
040	190	150	1885	
050	220	170	1885	



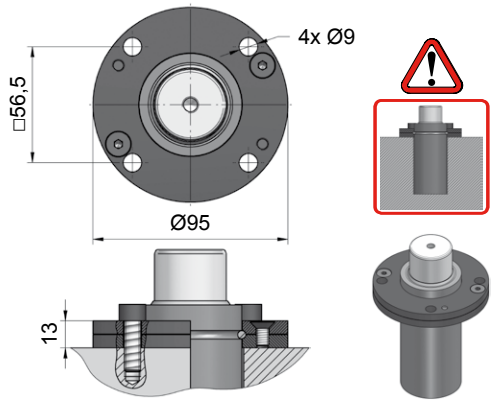




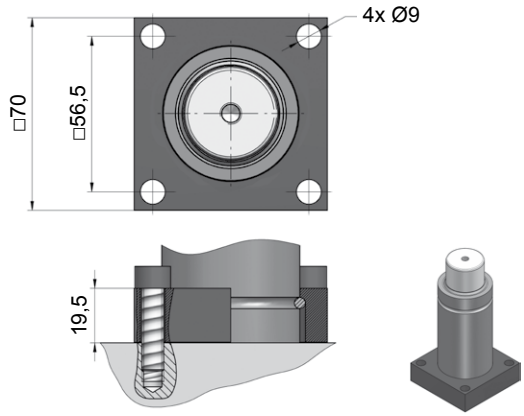
Einbaubeispiele / Flange mounting options



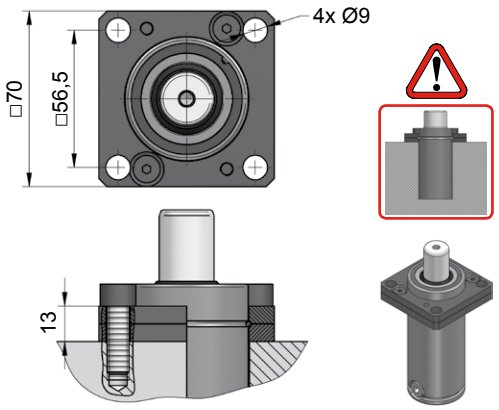
Flansche für / Flanges for **NC.030.00.01800**



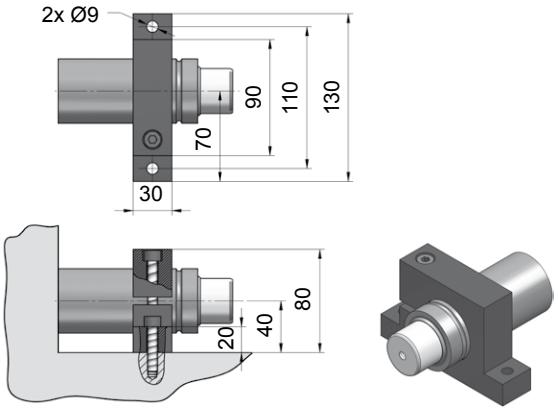
NC.88.00.050.0114



NC.88.00.050.0119



NC.88.00.050.0134



NC.88.00.050.0402

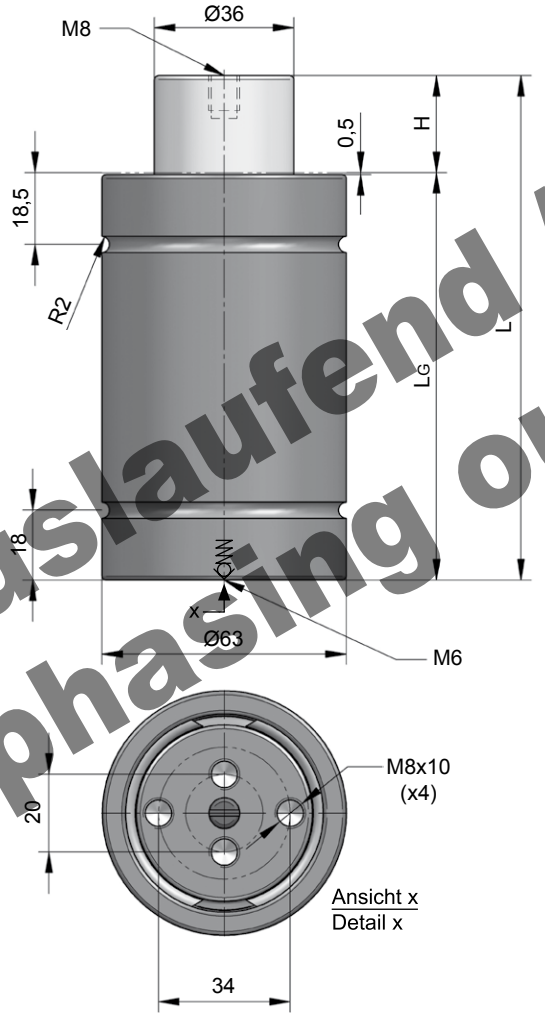
NC.030.00.03000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Specifications:

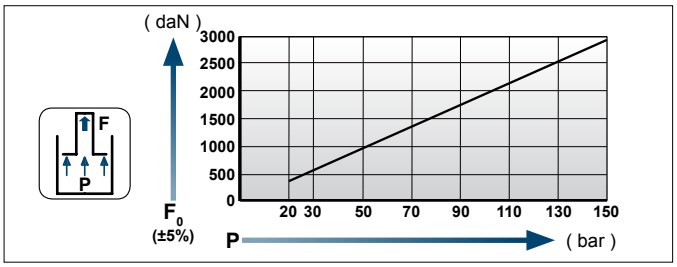
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

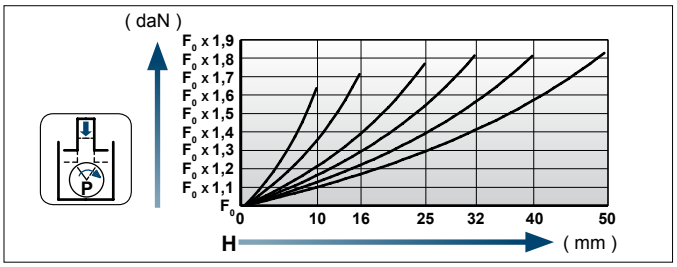


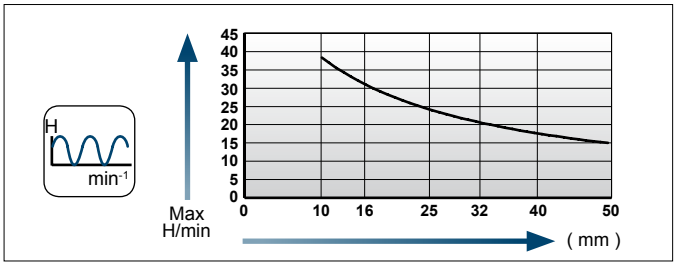
auslaufend / phasing out

NC.030.00.03000.016

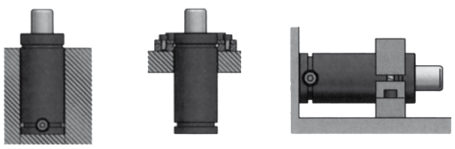
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	85	75	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	103	87	2945	
025	130	105	2945	
032	150	118	2945	
040	175	135	2945	
050	205	155	2945	



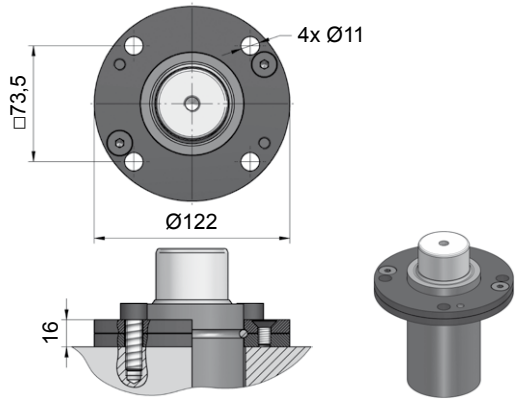




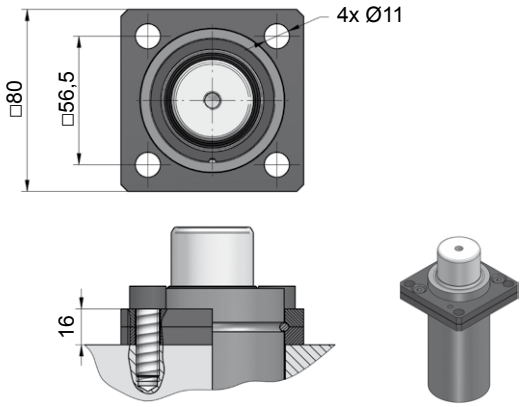
Einbaubeispiele / Flange mounting options



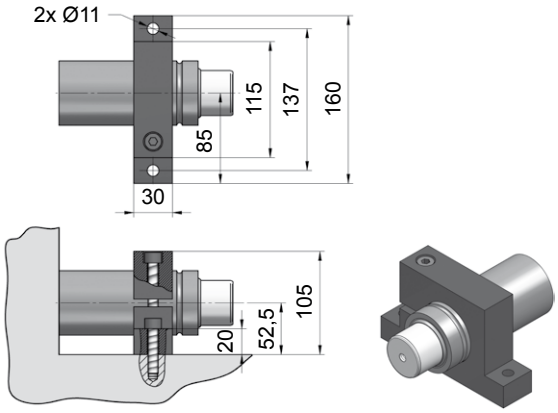
Flansche für / Flanges for **NC.030.00.03000**



NC.88.00.063.0114



NC.88.00.063.0134



NC.88.00.063.0402

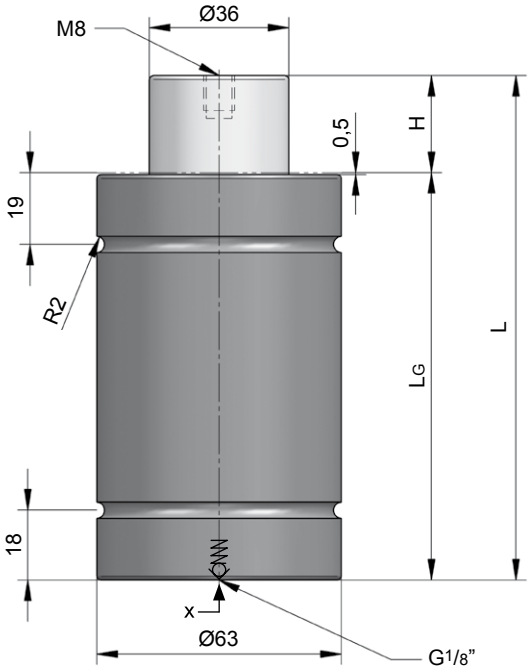
NC.030.00.03000...1

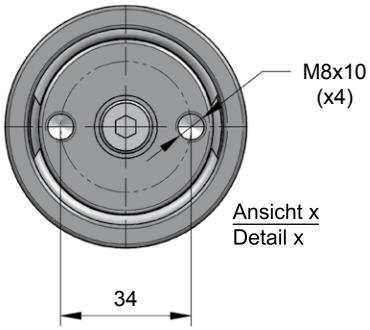
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Specifications:

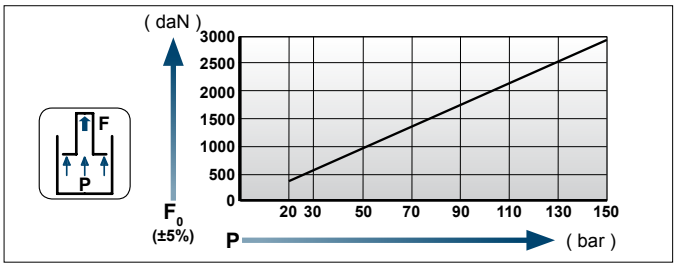
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

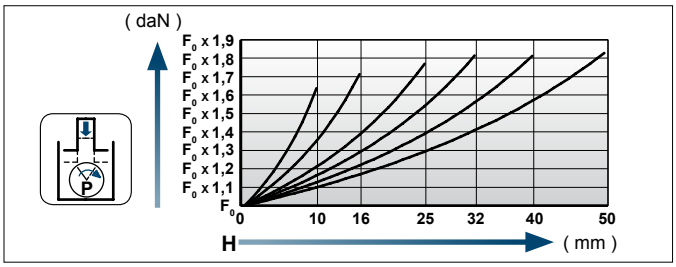


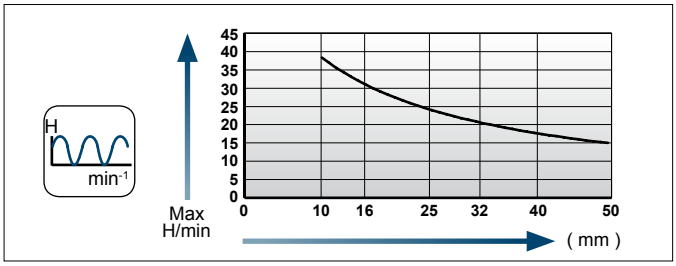


NC.030.00.03000.016.1

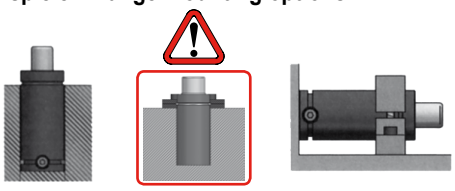
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	85	75	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	103	87	2945	
025	130	105	2945	
032	150	118	2945	
040	175	135	2945	
050	205	155	2945	





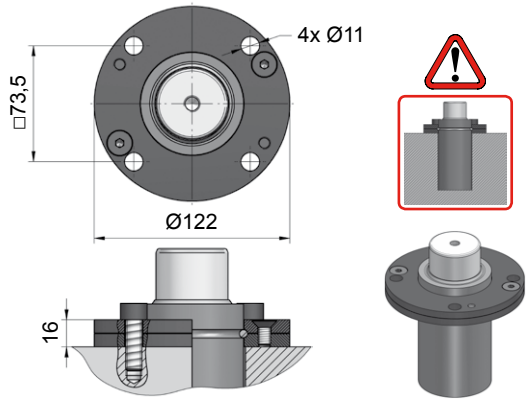


Einbaubeispiele / Flange mounting options

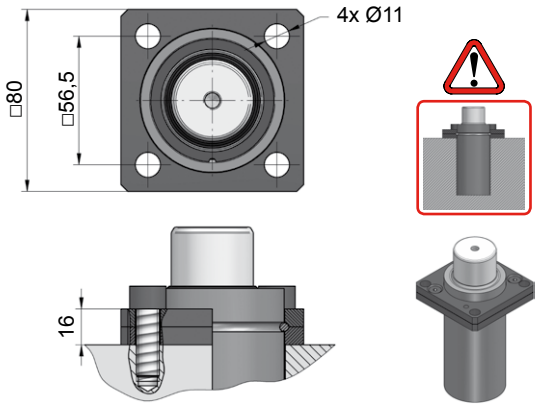


[NC]

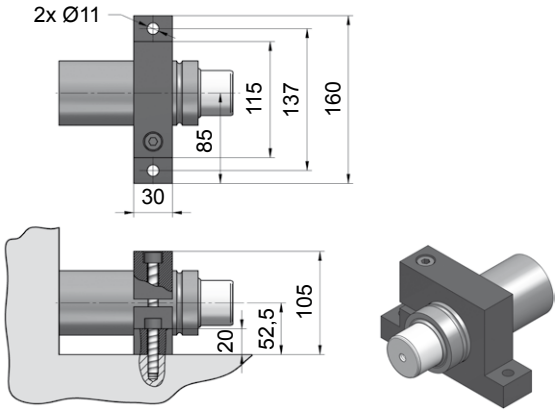
Flansche für / Flanges for **NC.030.00.03000…1**



NC.88.00.063.0114



NC.88.00.063.0134



NC.88.00.063.0402

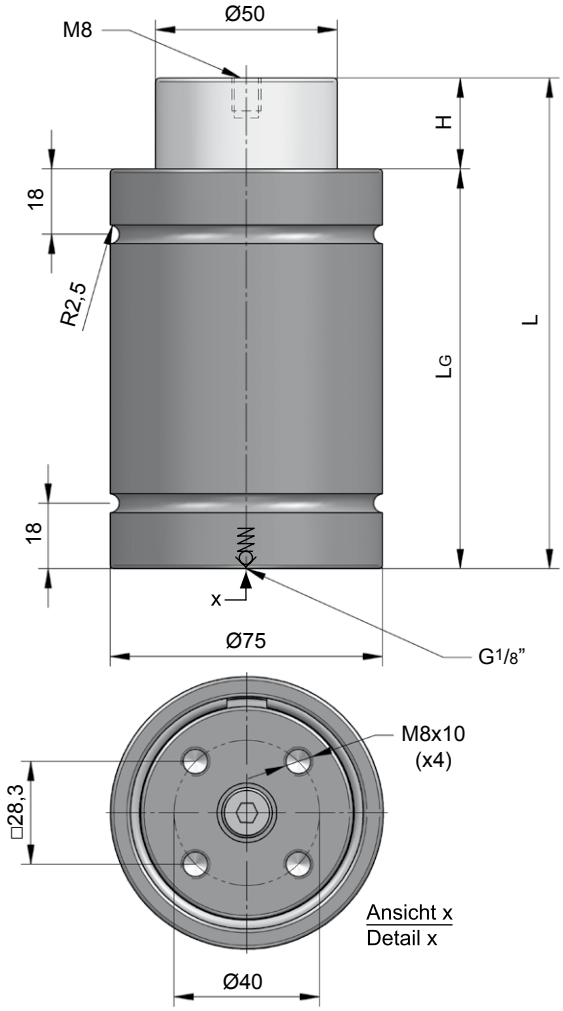
NC.030.00.04700

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

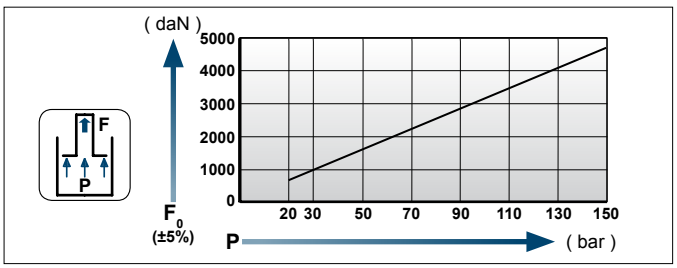
Specifications:

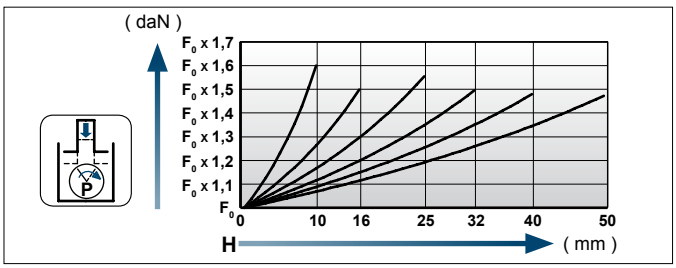
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

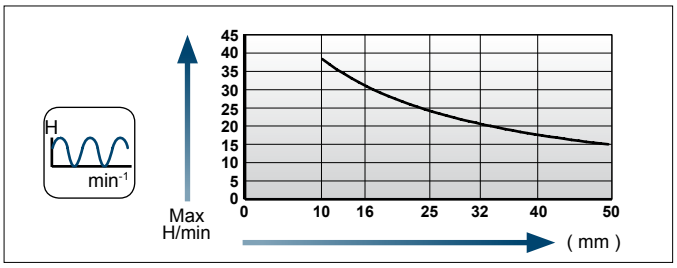


NC.030.00.04700.032

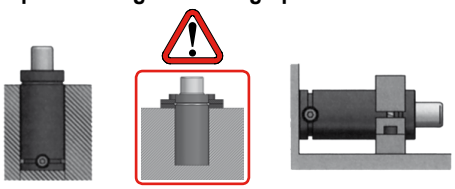
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	80	70	4675	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	106	90	4675	
025	135	110	4675	
032	167	135	4675	
040	200	160	4675	
050	240	190	4675	



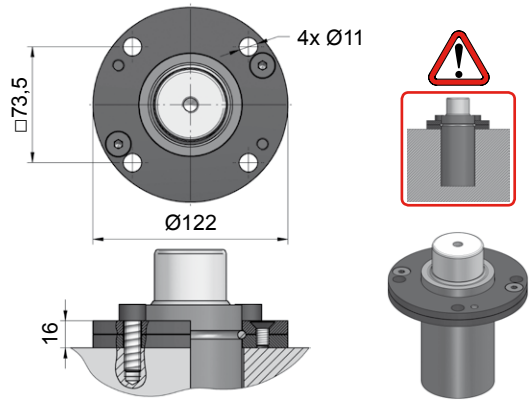




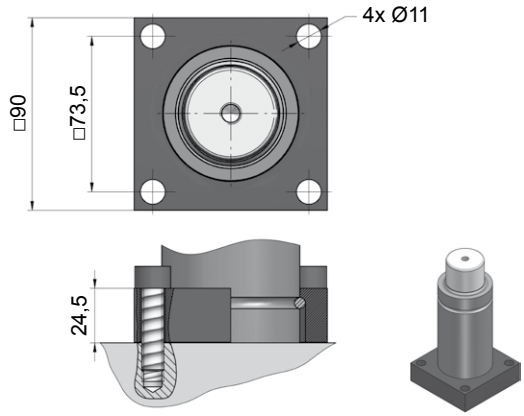
Einbaubeispiele / Flange mounting options



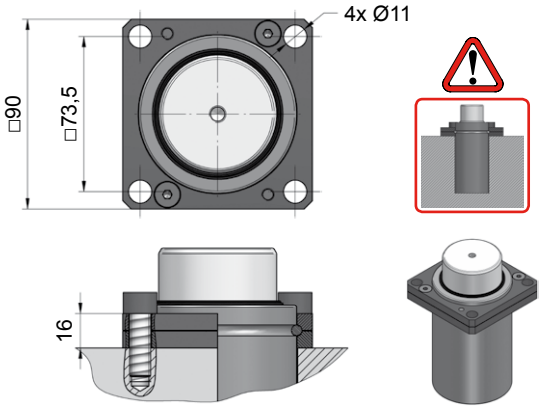
Flansche für / Flanges for **NC.030.00.04700**



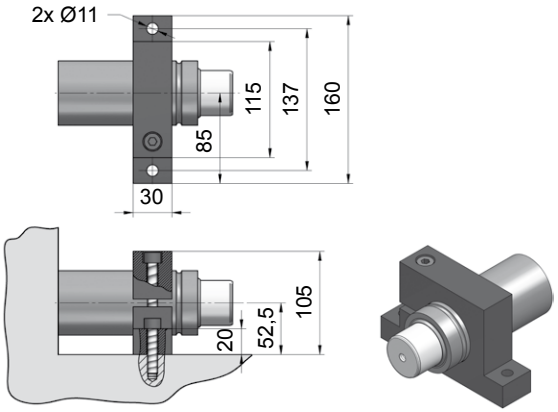
NC.88.00.075.0114



NC.88.00.075.0119



NC.88.00.075.0134



NC.88.00.075.0402

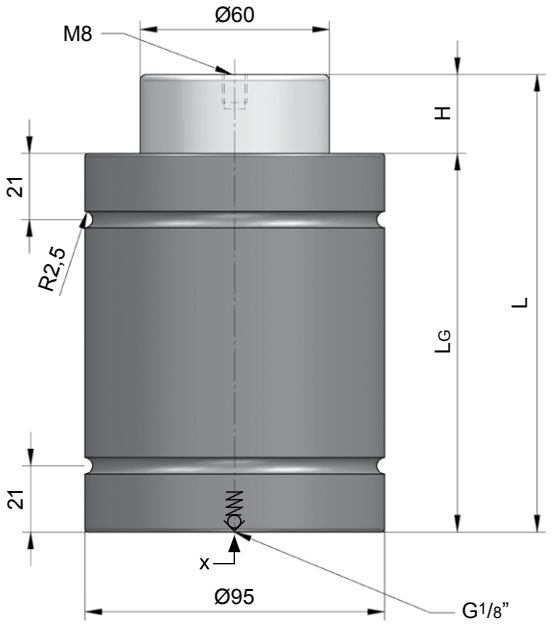
NC.030.00.07500

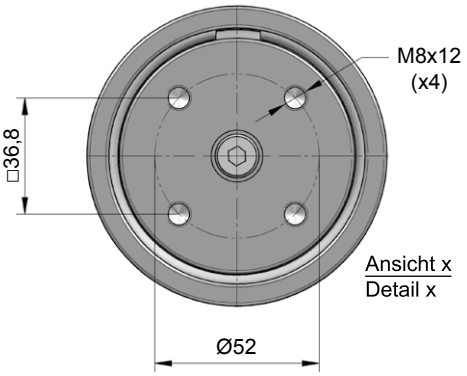
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Specifications:

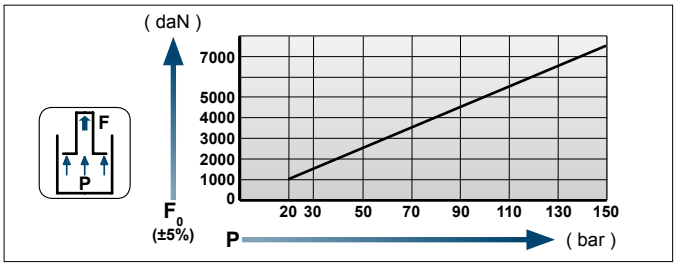
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 -80 °C
Max. piston rod speed:	0,5 m/s

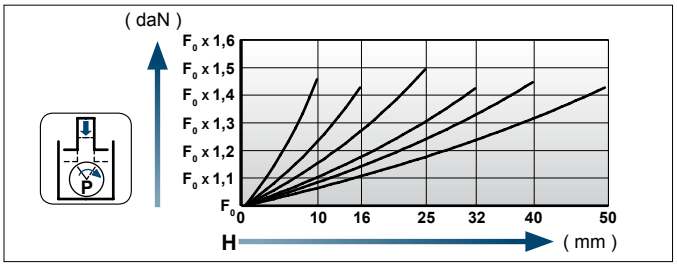


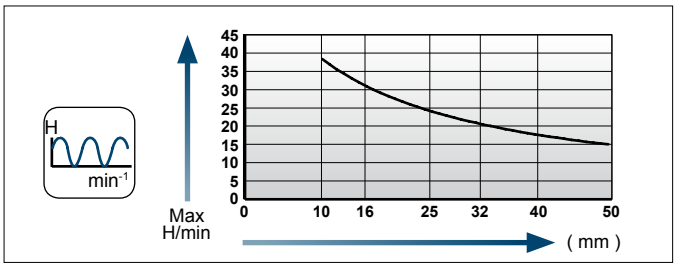


NC.030.00.07500.040

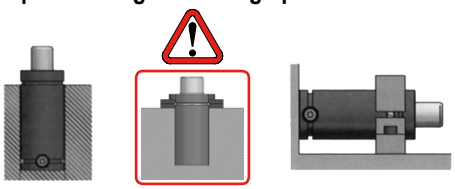
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	90	80	7540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	116	100	7540	
025	145	120	7540	
032	182	150	7540	
040	210	170	7540	
050	255	205	7540	



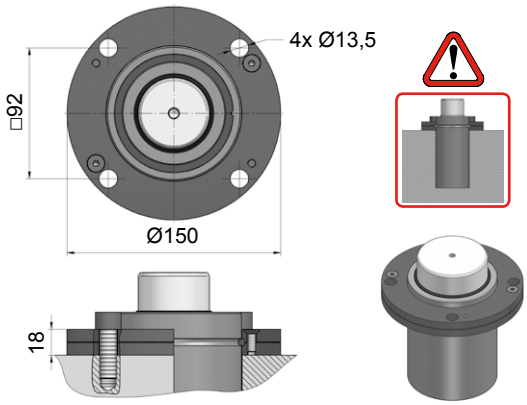




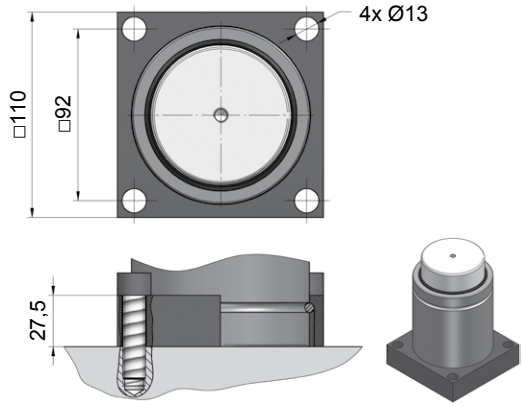
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.030.00.07500**



NC.88.00.095.0114



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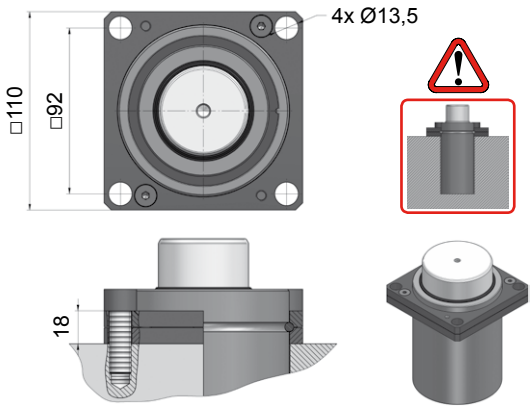
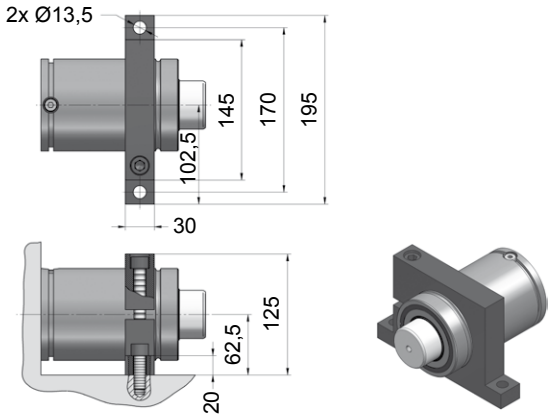


NC.88.00.095.0134



NC.88.00.095.0402

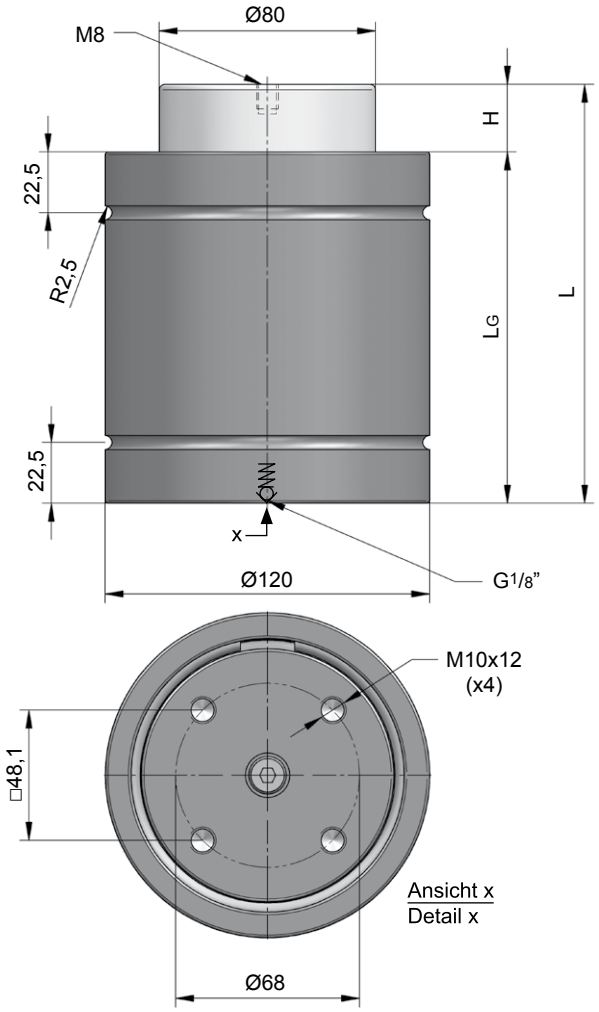
NC.030.00.11800

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

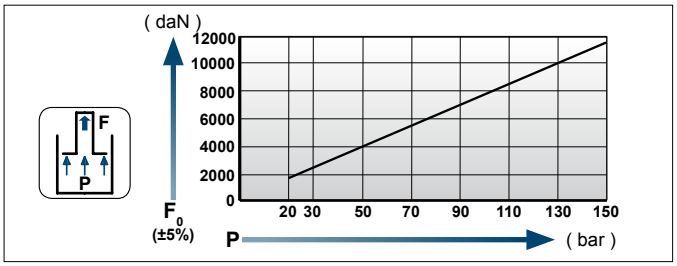
Specifications:

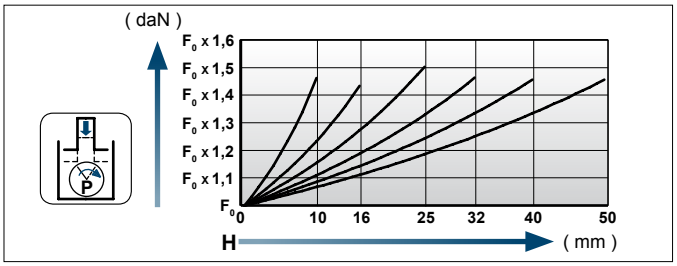
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

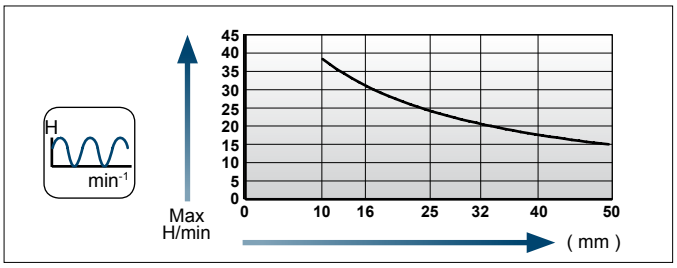


NC.030.00.11800.050

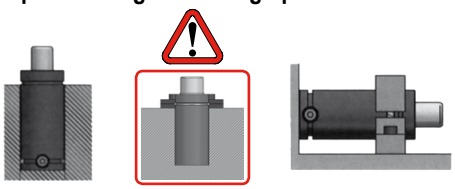
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	100	90	11780	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	126	110	11780	
025	155	130	11780	
032	187	155	11780	
040	220	180	11780	
050	260	210	11780	





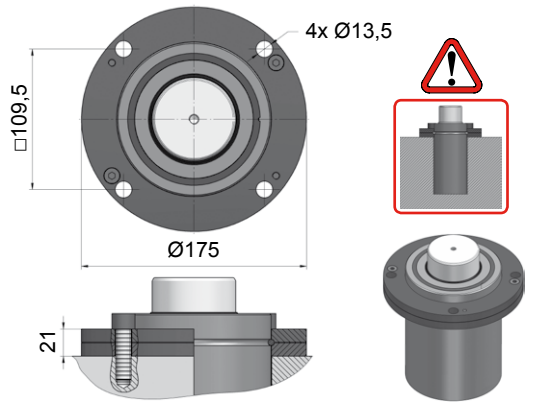


Einbaubeispiele / Flange mounting options

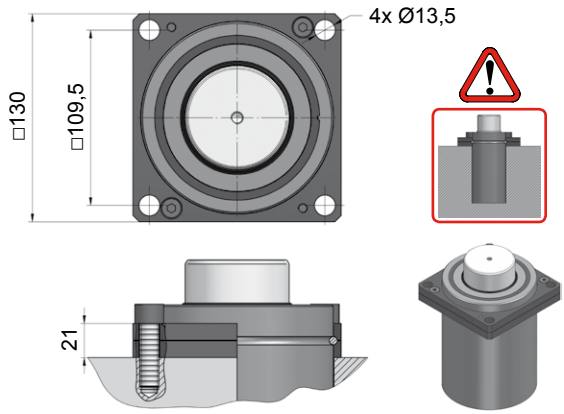


[NC]

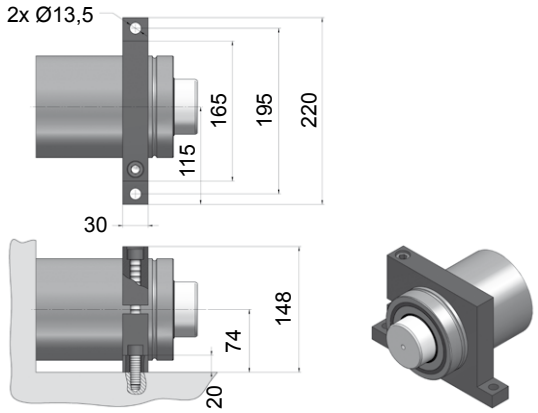
Flansche für / Flanges for **NC.030.00.11800**



NC.88.00.120.0114



NC.88.00.120.0134



NC.88.00.120.0402

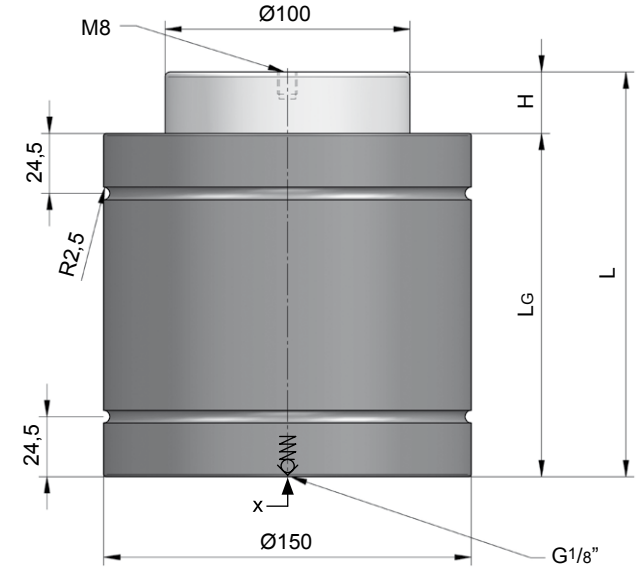
NC.030.00.18300

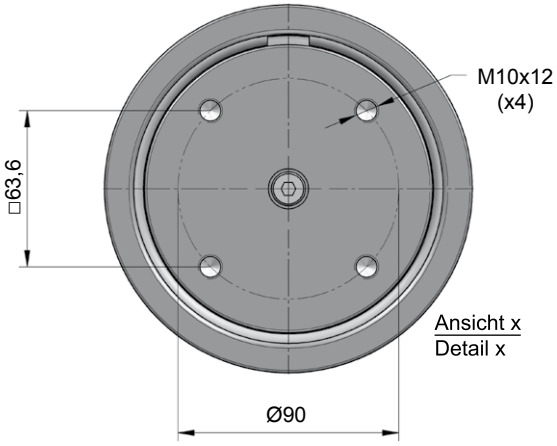
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Specifications:

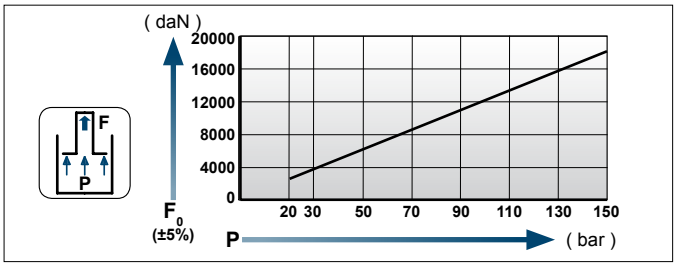
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

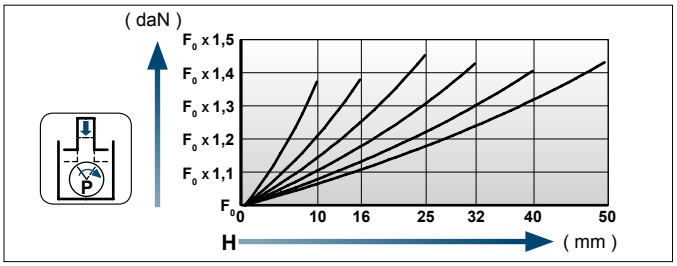


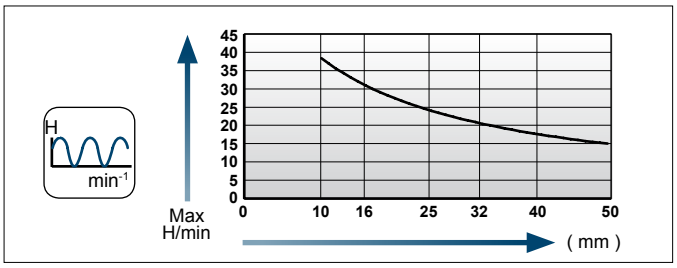


NC.030.00.18300.010

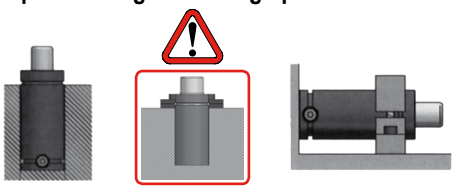
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	110	100	18410	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	136	120	18410	
025	165	140	18410	
032	197	165	18410	
040	235	195	18410	
050	270	220	18410	



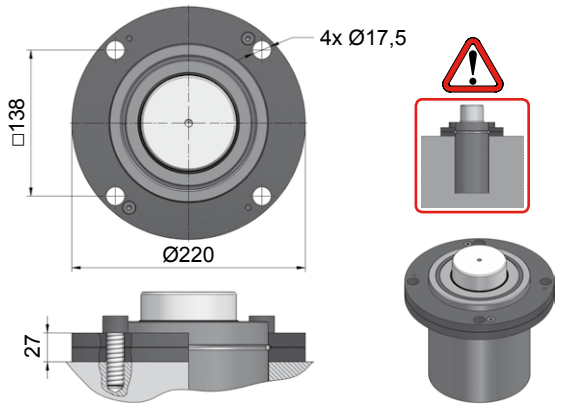




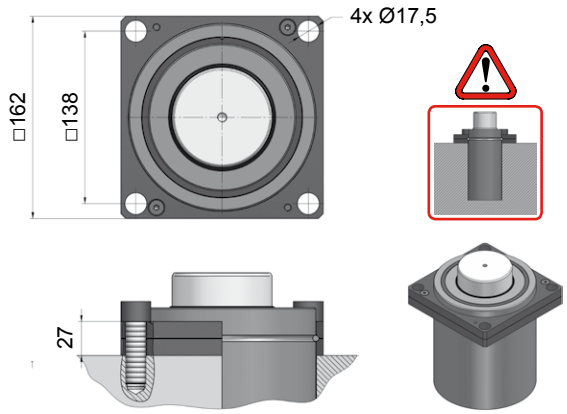
Einbaubeispiele / Flange mounting options



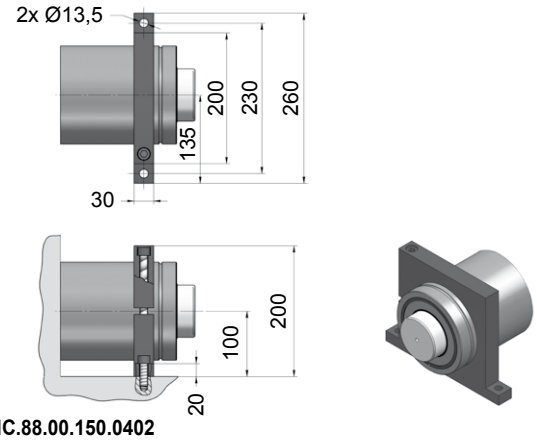
Flansche für / Flanges for **NC.030.00.18300**



NC.88.00.150.0114



NC.88.00.150.0134



NC.88.00.150.0402

Technische Information Serie NC.030.18

Beim Einsatz von Gasdruckfedern ist darauf zu achten, dass diese vor Schmutz, Ziehölen und sonstigen Fluiden geschützt werden. Zwar verfügen die meisten Gasdruckfedern über einen Schmutzabstreifer, der das Eindringen von Fremdkörpern verhindern soll, allerdings besteht der beste Schutz darin, erst gar keine Verunreinigung an die Zylinder kommen zu lassen.

Die Gasdruckfedern der **NC.030**-Serie haben einen besonderen Aufbau (Kolben mit Kolbenkopf). Bei diesem Zylinder-Typ entsteht an der Zylinder-Oberseite ein Saugeffekt, der Flüssigkeiten oder Schmutz in den Zylinder-innenraum ziehen kann. Da sich der Raum für den Stickstoff dadurch verringert, entsteht ein kontinuierlich ansteigender Druck, der letztendlich zum frühzeitigen Ausfall des Zylinders führen kann. Aus diesem Grund müssen die Gasdruckfedern **NC.030** konsequent gegen Verunreinigung geschützt werden.

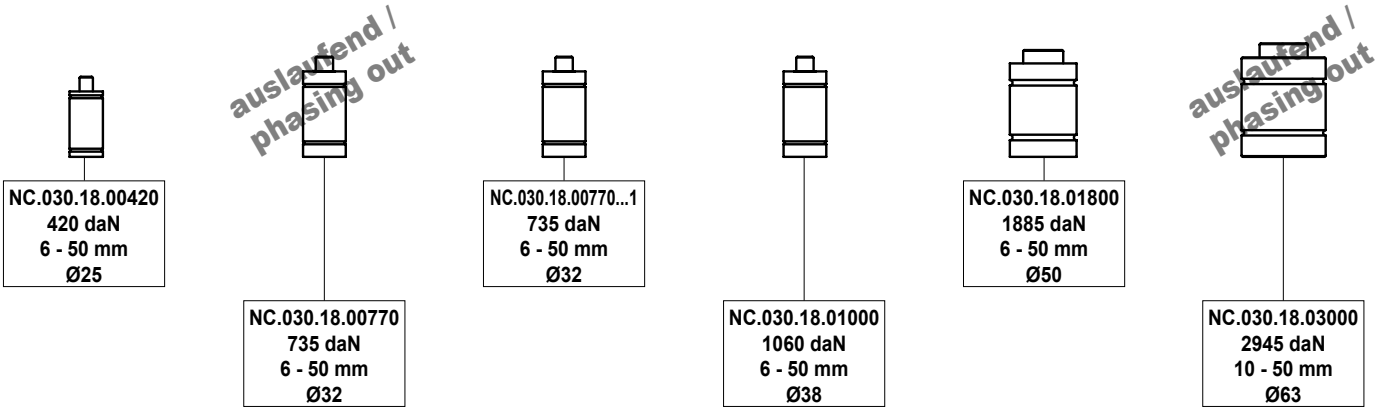
Technical information NC.030.18 series

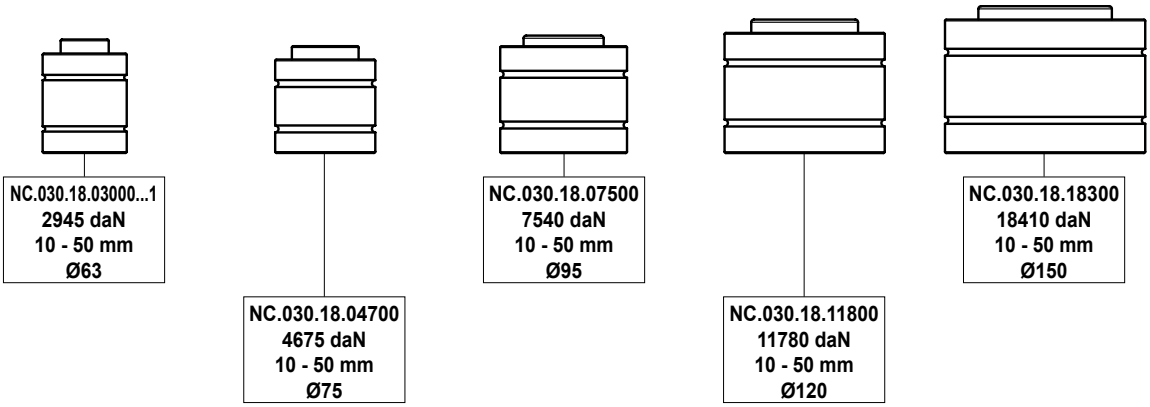
Using gas springs it is mandatory to protect them from dirt, oil and similar fluids. For that reason, most springs have a plastic dirt-scraper, to prevent the penetration of these external particles. However, the best protection is not to let any dirt get to the springs at all in the first place.

Due to the specific design of the **NC.030**-gas springs there is a „sucking“ effect at the top of the cylinder body. This effect can lead to foreign particles being pulled inside. Since the room designated for the nitrogne thereby continously decreases, the cylinder life - time may be negatively affected. It is for this reason, that the gas springs of this series must be well protected against dirt and fluids.

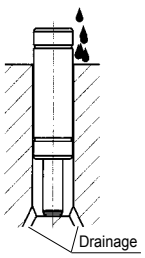
Größenübersicht Serie NC.030.18

Gas spring index NC.030.18 series

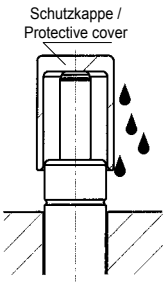




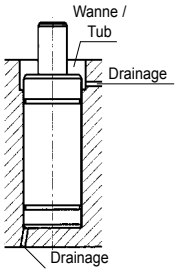
Gasdruckfeder-Einbau „über Kopf“ mit Drainage im Boden /
Upside-Down - Application, drain-hole at the bottom



Gasdruckfeder mit Schutzkappe /
Gas spring with protective cover



„Wanne“ mit Drainage oben, zusätzlich Boden-Drainage /
Cavity with upper drain-hole, additional drain hole at the bottom



NC.030.18.00420

Technische Daten:

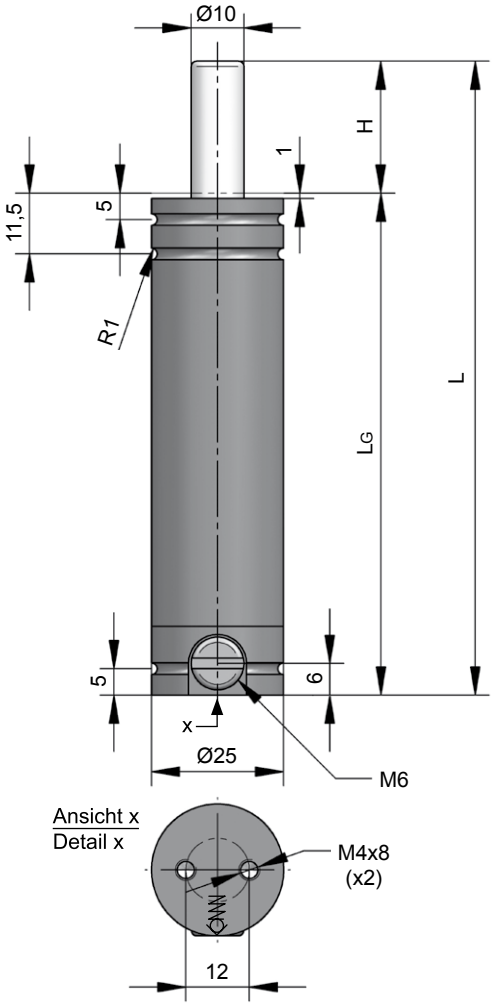
Medium:	N_2
$P_{max.}$ (20 °C):	165 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

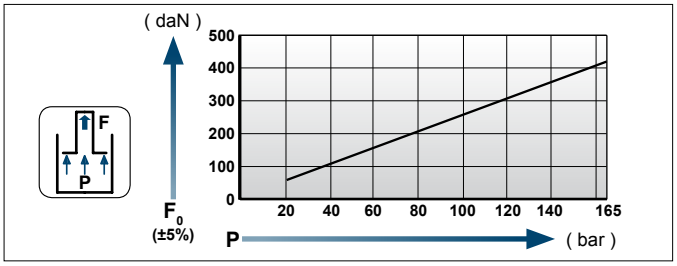
Pressure medium:	N_2
$P_{max.}$ (20 °C):	165 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

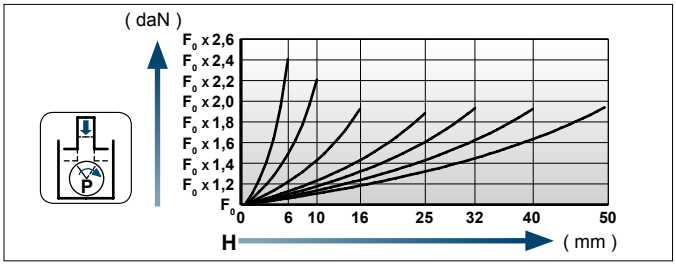
Attention: Maintenance only at manufacturer's site!

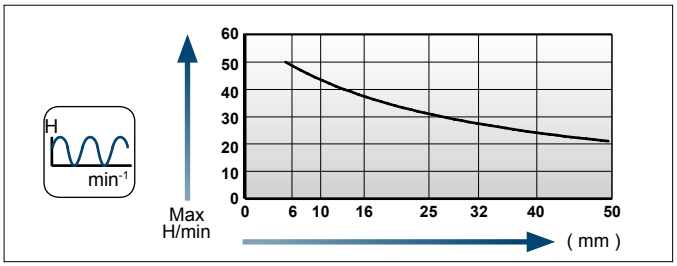


NC.030.18.00420.032

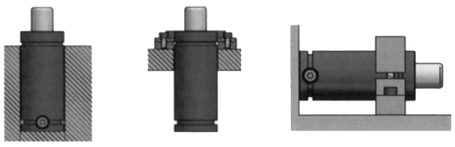
H Hub / Stroke	L ±0,25	LG	Kraft / Force (165 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	56	50	420	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	70	60	420	
016	91	75	420	
025	120	95	420	
032	140	108	420	
040	165	125	420	
050	195	145	420	



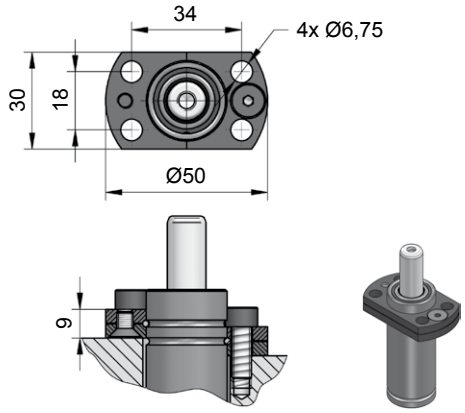




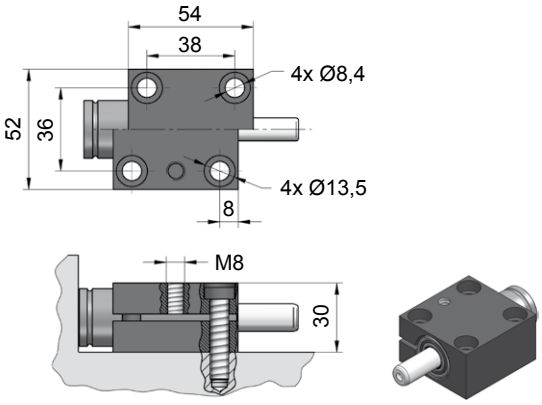
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.030.18.00420**



NC.88.00.025.0144



NC.88.00.025.0402

NC.030.18.00770

Technische Daten:

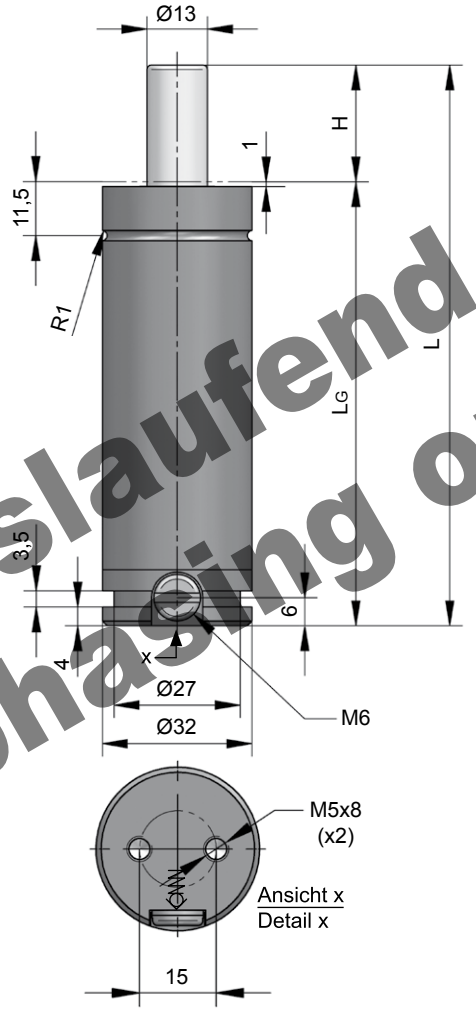
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

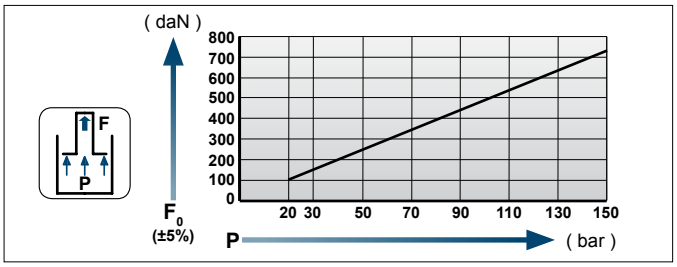
Attention: Maintenance only at manufacturer's site!

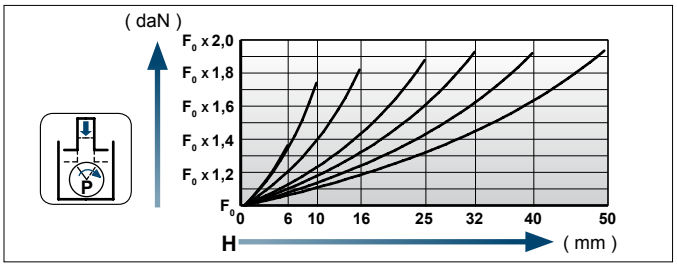


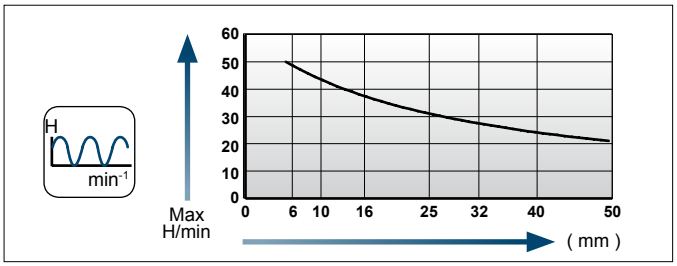
auslaufend / phasing out

NC.030.18.00770.032

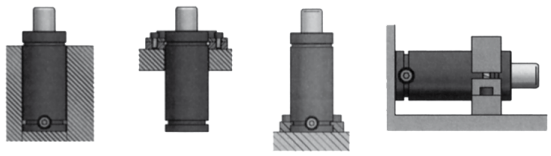
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	63	57	735	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	75	65	735	
016	93	77	735	
025	120	95	735	
032	140	108	735	
040	165	125	735	
050	195	145	735	





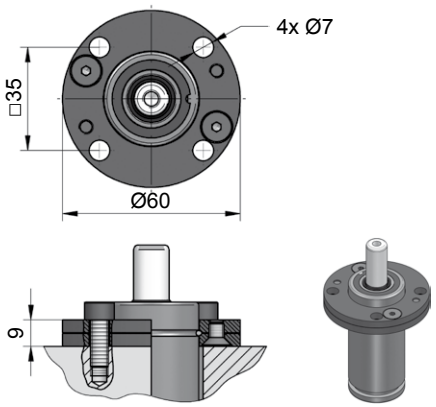


Einbaubeispiele / Flange mounting options

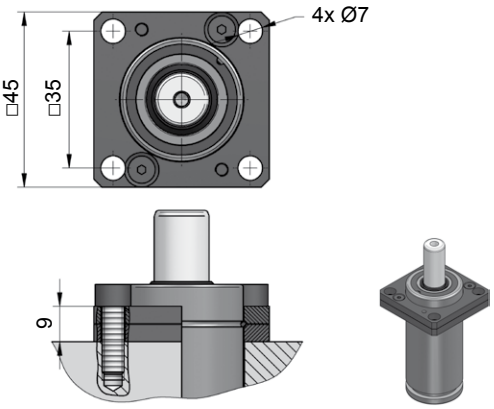


[NC]

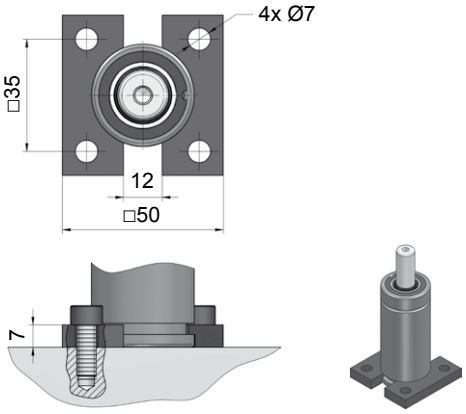
Flansche für / Flanges for **NC.030.18.00770**



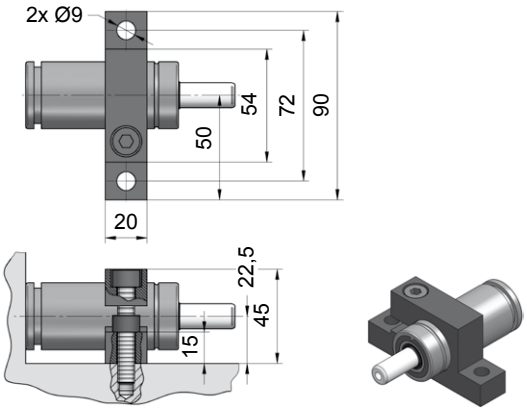
NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0320



NC.88.00.032.0402

NC.030.18.00770...1

NEU! NEW!

ZUGELASSEN PED 97/23/EG

Technische Daten:

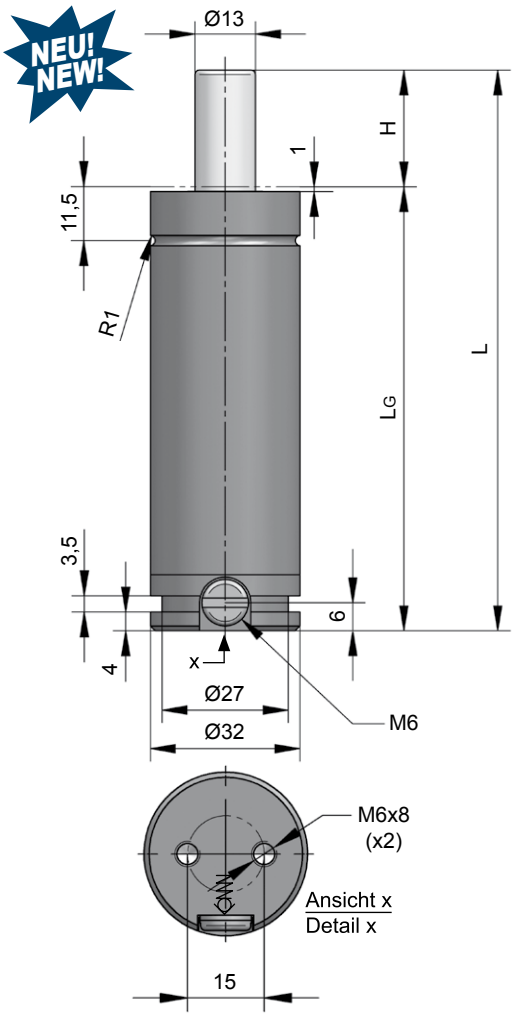
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur the durch den Hersteller!

Specifications:

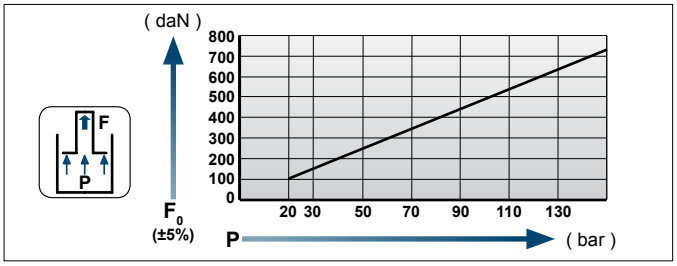
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

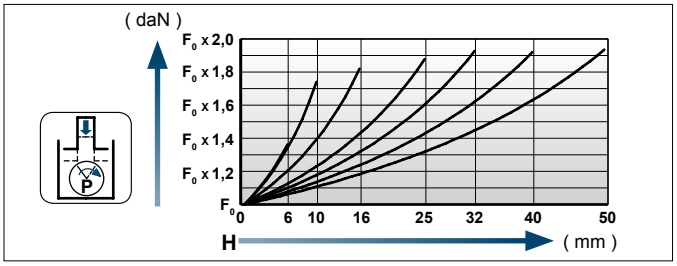
Attention: Maintenance only at manufacturer's site!

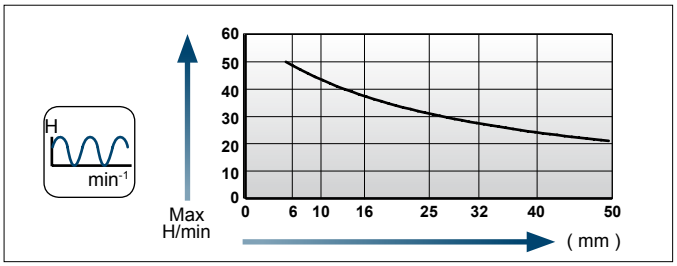


NC.030.18.00770.032.1

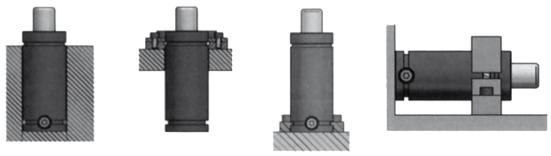
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	63	57	735	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	75	65	735	
016	93	77	735	
025	120	95	735	
032	140	108	735	
040	165	125	735	
050	195	145	735	





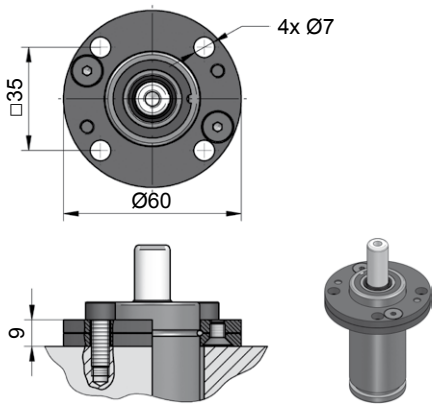


Einbaubeispiele / Flange mounting options

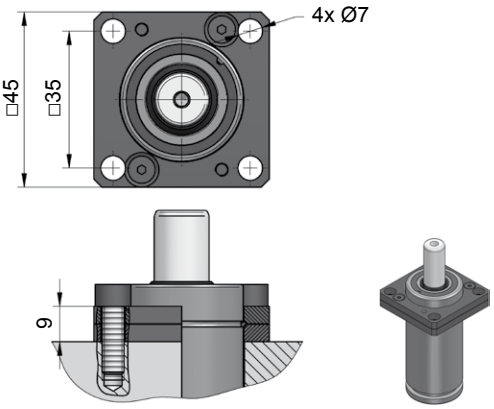


[NC]

Flansche für / Flanges for **NC.030.18.00770…1**



NC.88.00.032.0114



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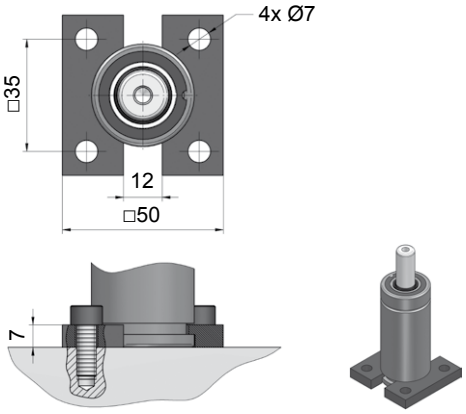
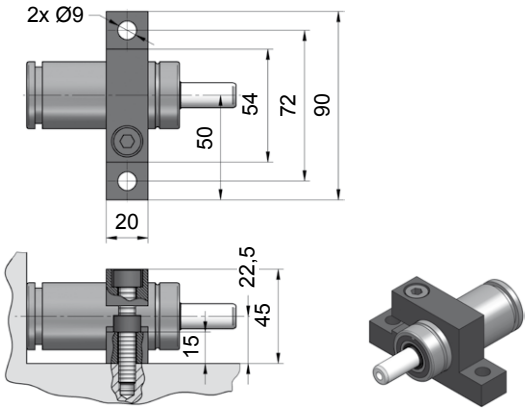


NC.88.00.032.0320



NC.88.00.032.0402

NC.030.18.01000

Technische Daten:

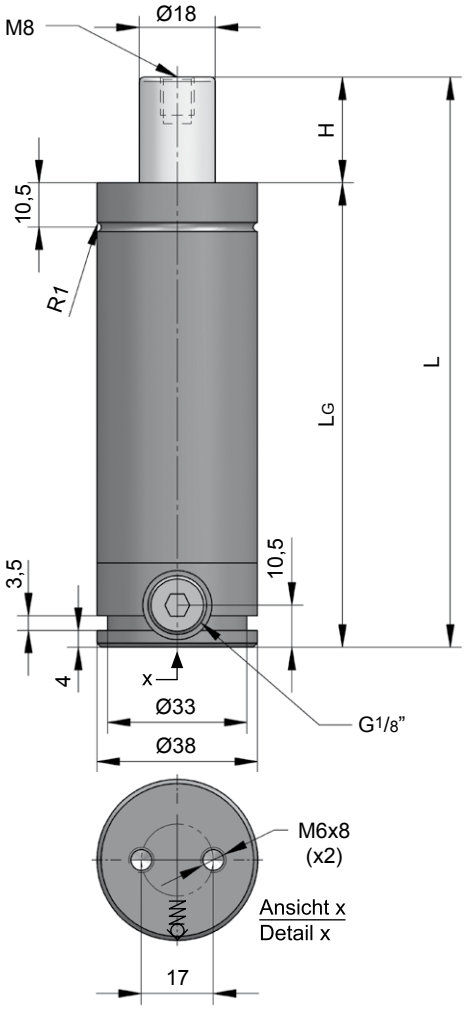
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

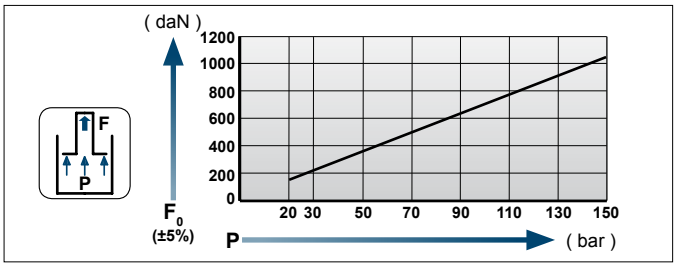
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

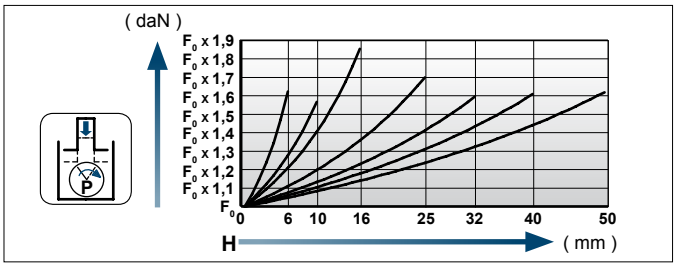
Attention: Maintenance only at manufacturer's site!

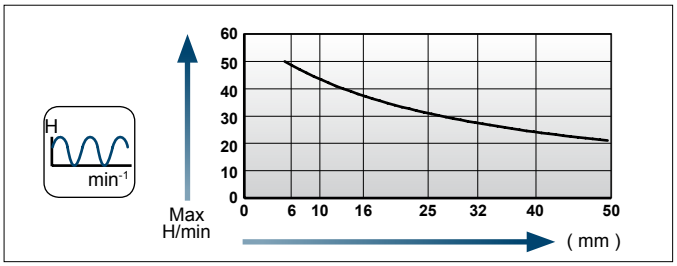


NC.030.18.01000.016

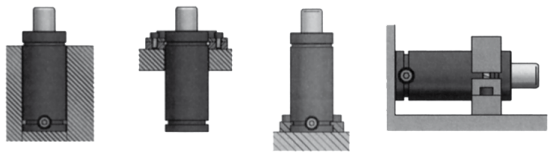
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	61	55	1060	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	77	67	1060	
016	100	84	1060	
025	135	110	1060	
032	167	135	1060	
040	195	155	1060	
050	230	180	1060	



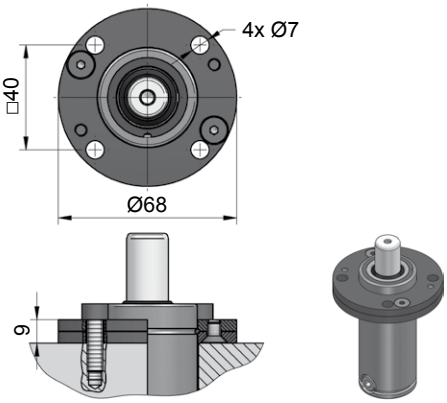




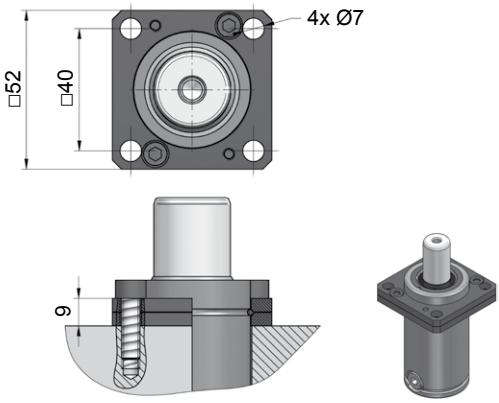
Einbaubeispiele / Flange mounting options



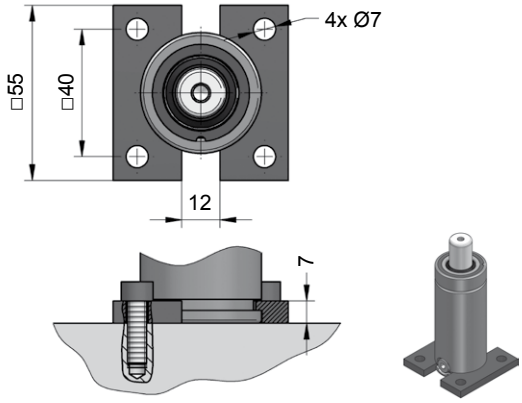
Flansche für / Flanges for **NC.030.18.01000**



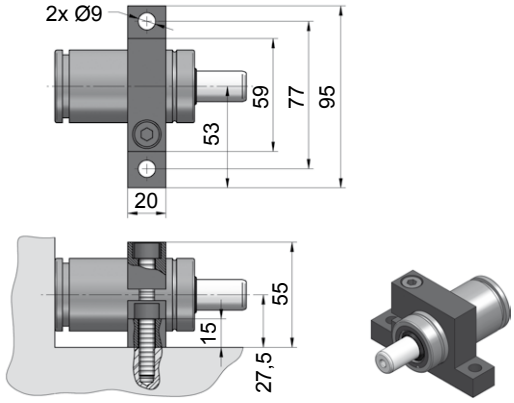
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0320



NC.88.00.038.0402

NC.030.18.01800

Technische Daten:

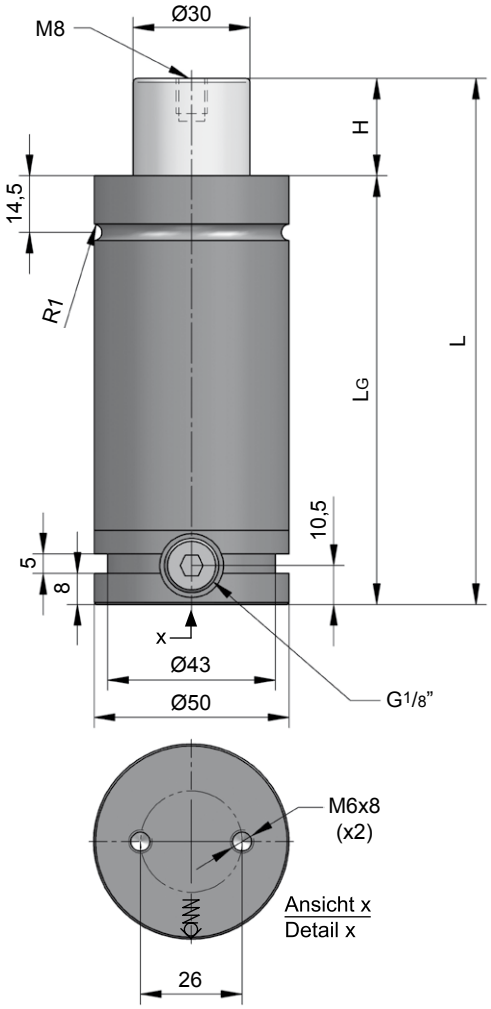
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

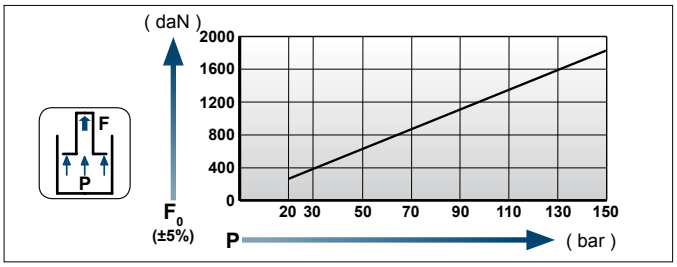
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

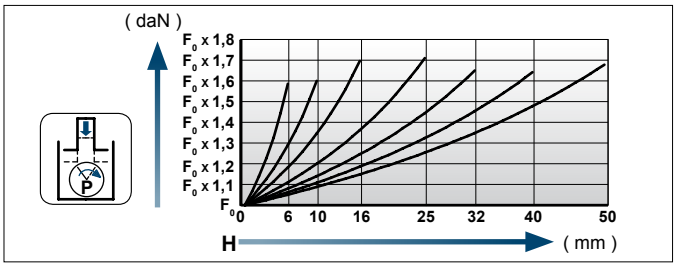
Attention: Maintenance only at manufacturer's site!

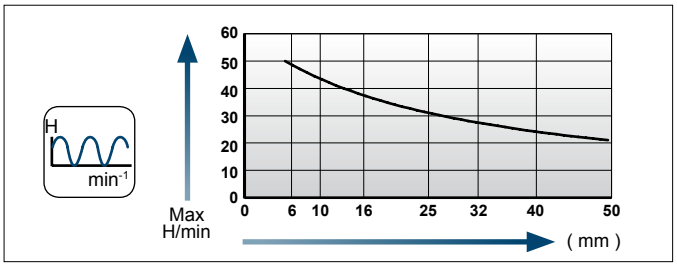


NC.030.18.01800.025

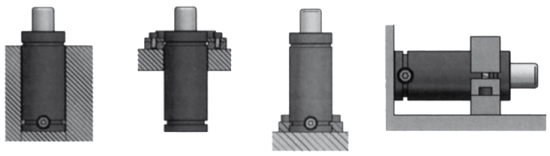
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	66	60	1885	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	80	70	1885	
016	106	90	1885	
025	135	110	1885	
032	162	130	1885	
040	190	150	1885	
050	220	170	1885	





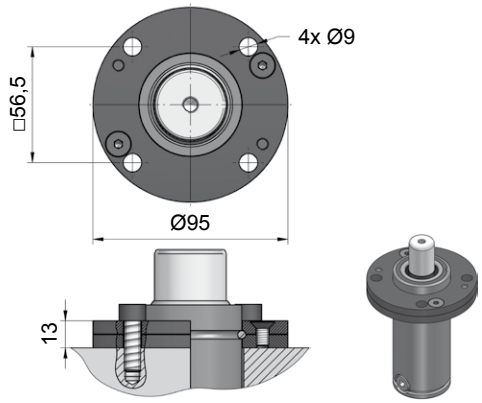


Einbaubeispiele / Flange mounting options

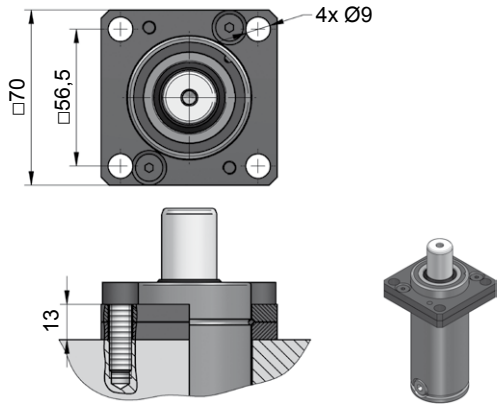


[NC]

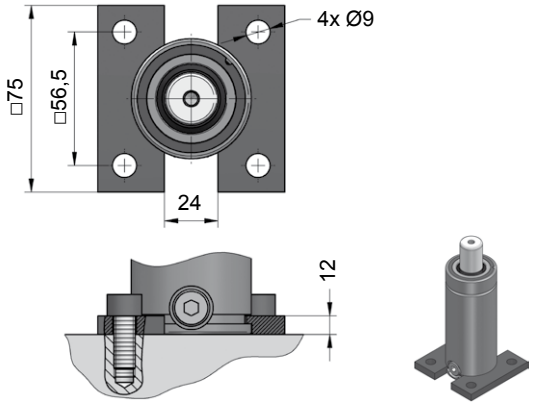
Flansche für / Flanges for **NC.030.18.01800**



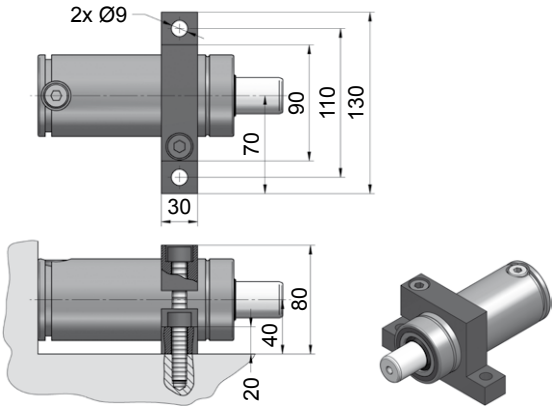
NC.88.00.050.0114



NC.88.00.050.0134



NC.88.00.050.0320



NC.88.00.050.0402

NC.030.18.03000

Technische Daten:

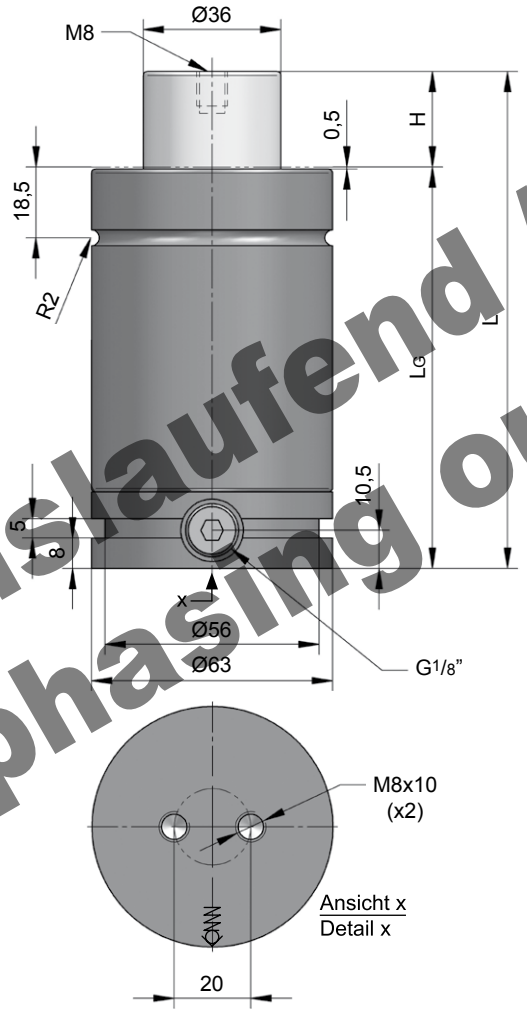
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

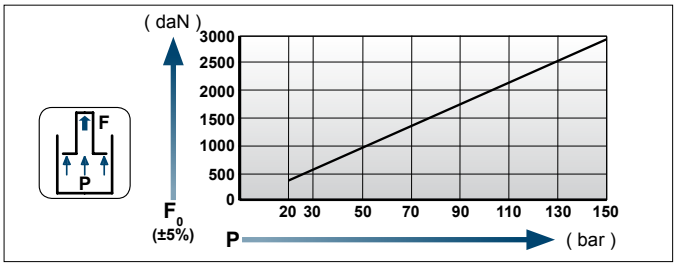
Attention: Maintenance only at manufacturer's site!

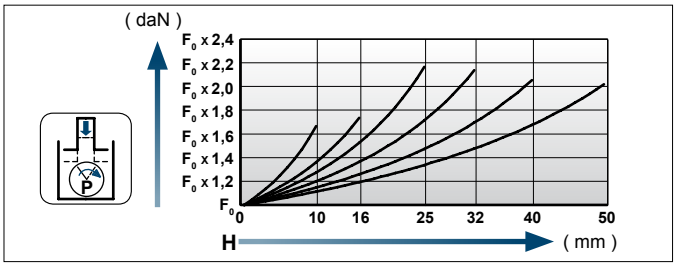


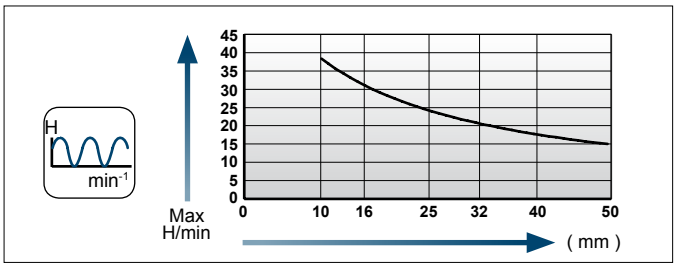
auslaufend / phasing out

NC.030.18.03000.016

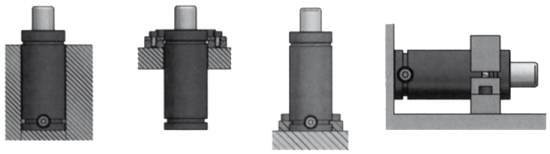
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	85	75	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	103	87	2945	
025	130	105	2945	
032	150	118	2945	
040	175	135	2945	
050	205	155	2945	



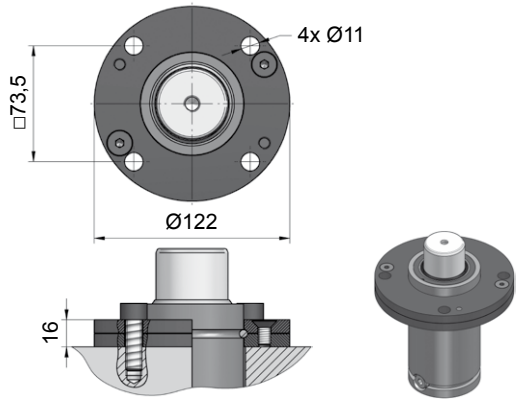




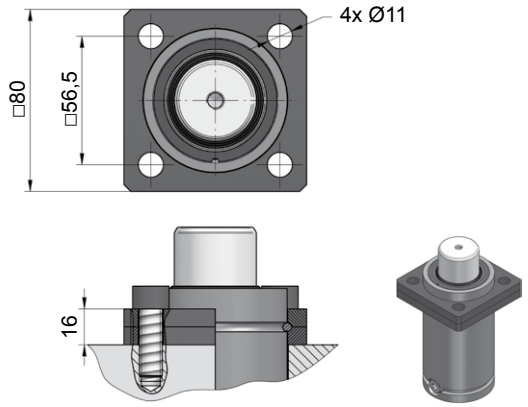
Einbaubeispiele / Flange mounting options



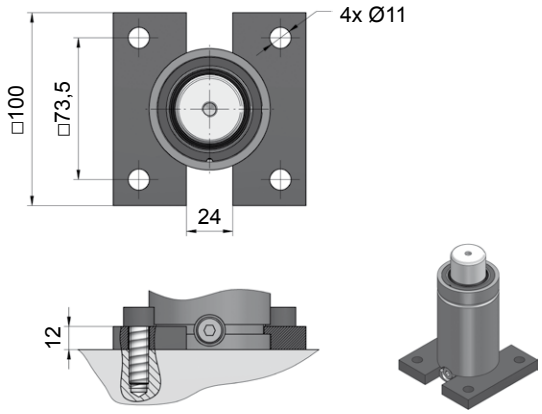
Flansche für / Flanges for **NC.030.18.03000**



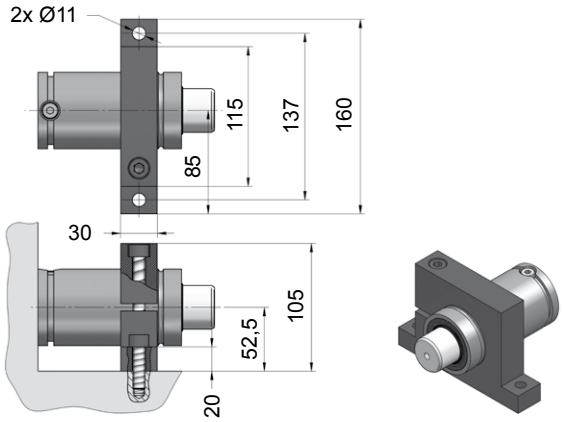
NC.88.00.063.0114



NC.88.00.063.0134



NC.88.00.063.0335



NC.88.00.063.0402

NC.030.18.03000...1

NEU! NEW!

Technische Daten:

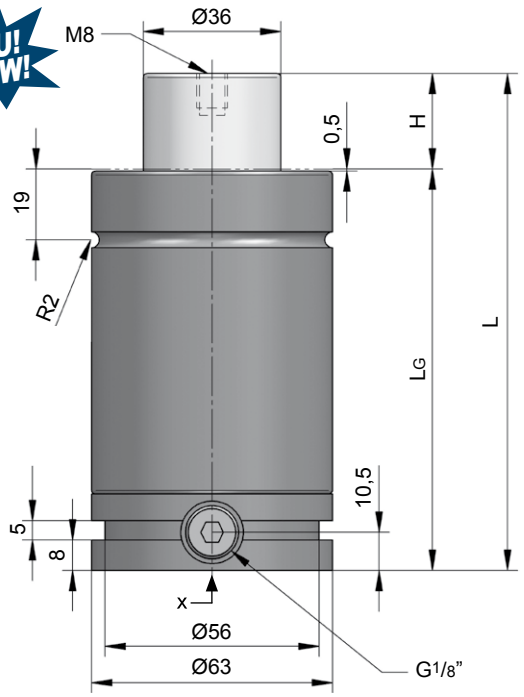
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

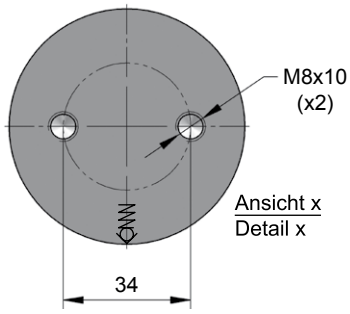
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

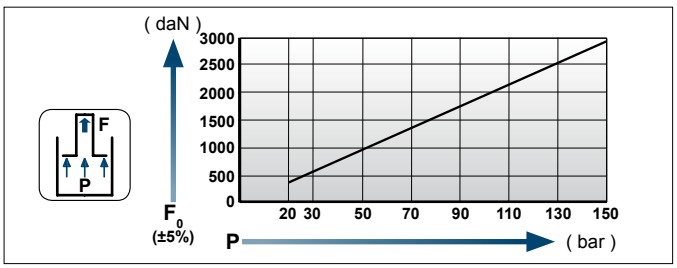
Attention: Maintenance only at manufacturer's site!

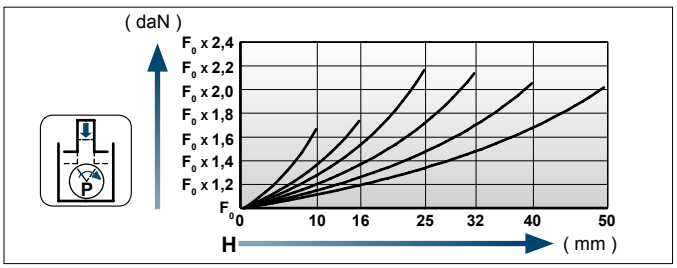


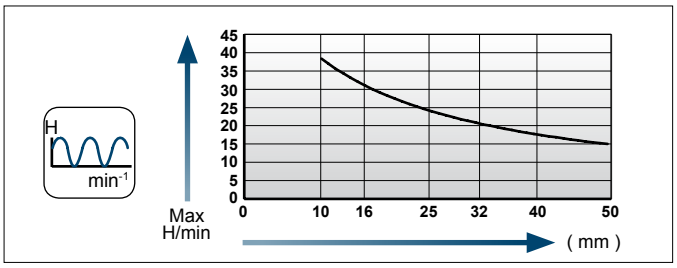


NC.030.18.03000.016.1

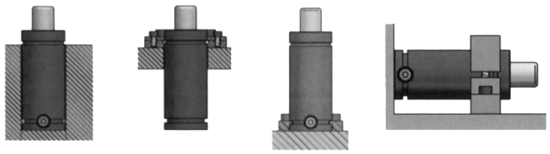
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	85	75	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	103	87	2945	
025	130	105	2945	
032	150	118	2945	
040	175	135	2945	
050	205	155	2945	



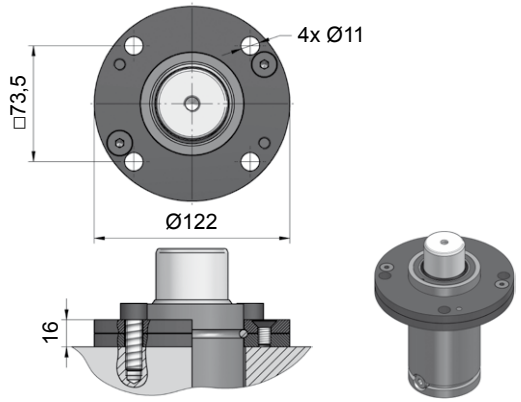




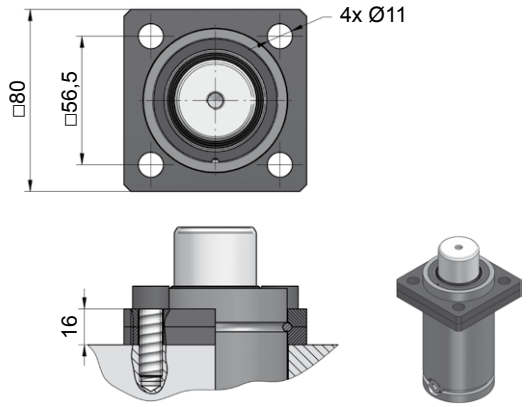
Einbaubeispiele / Flange mounting options



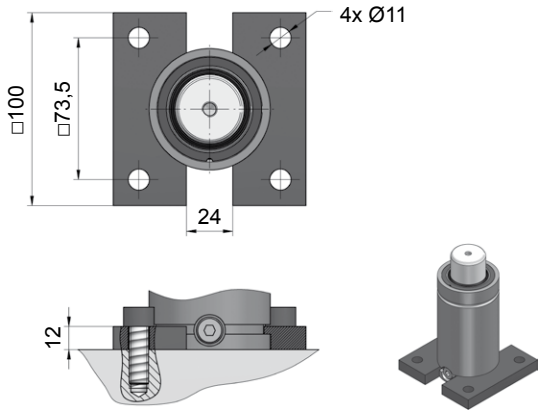
Flansche für / Flanges for **NC.030.18.03000…1**



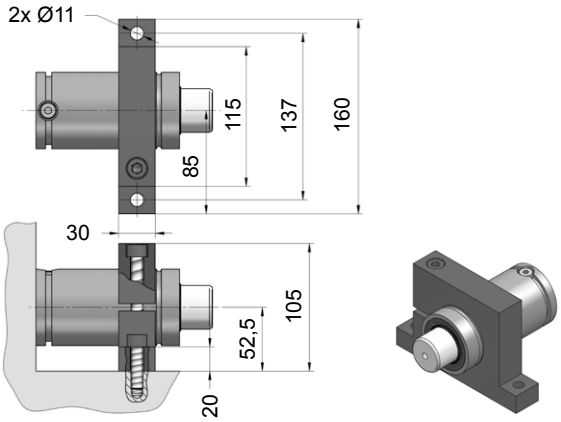
NC.88.00.063.0114



NC.88.00.063.0134



NC.88.00.063.0335



NC.88.00.063.0402

NC.030.18.04700

Technische Daten:

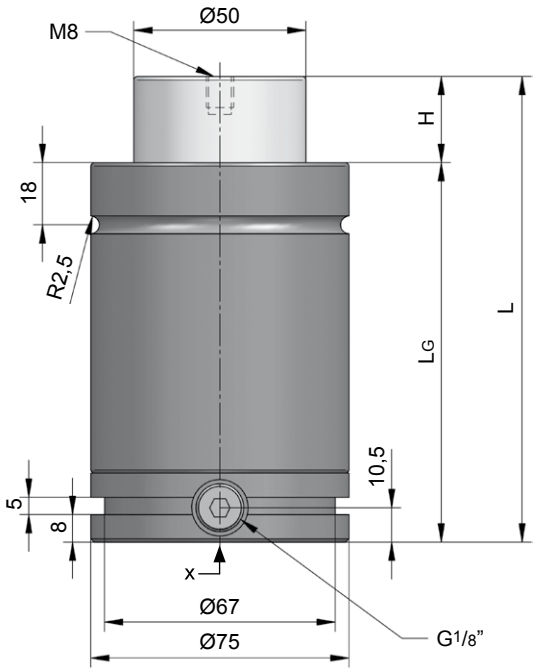
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

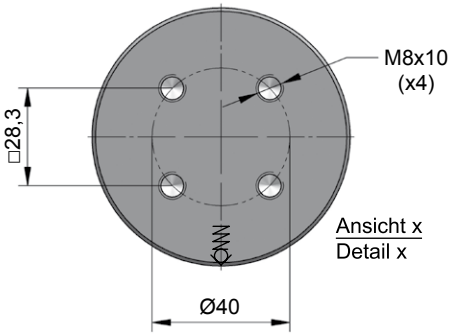
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

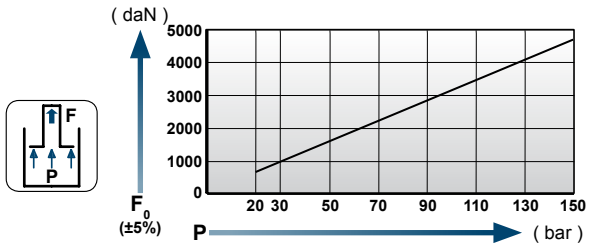
Attention: Maintenance only at manufacturer's site!

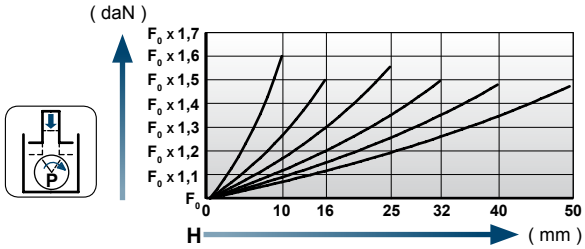


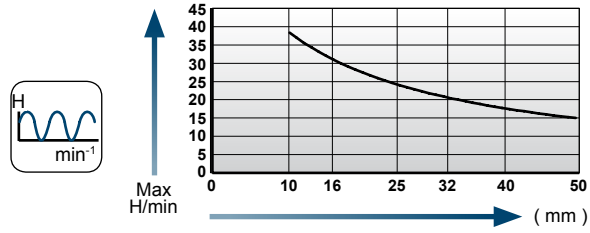


NC.030.18.04700.032

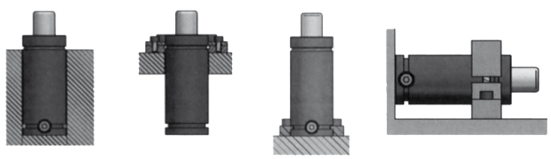
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	80	70	4675	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	106	90	4675	
025	135	110	4675	
032	167	135	4675	
040	200	160	4675	
050	240	190	4675	



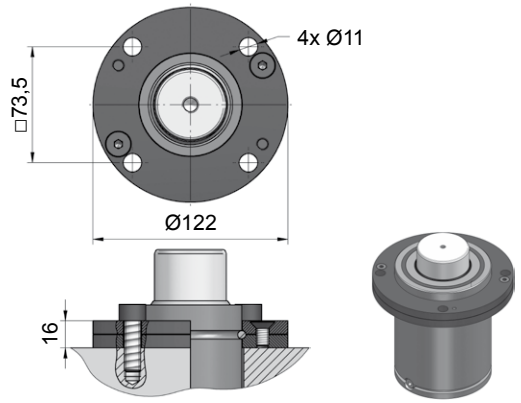




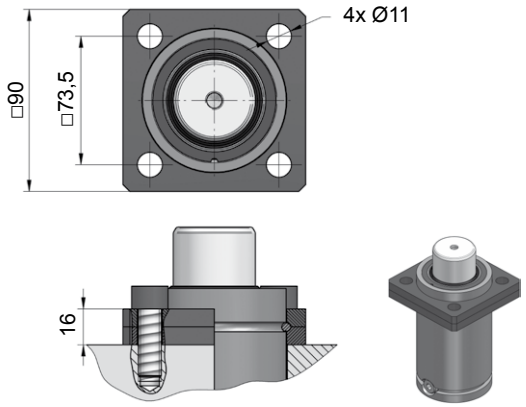
Einbaubeispiele / Flange mounting options



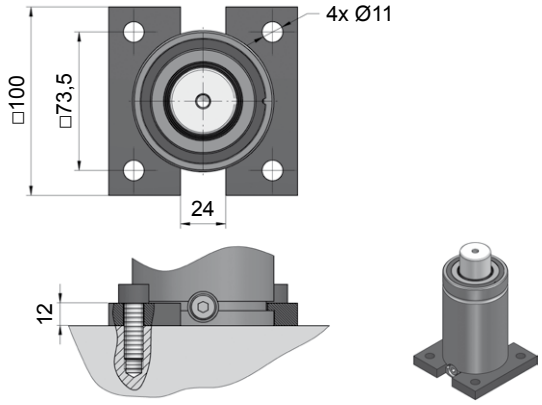
Flansche für / Flanges for **NC.030.18.04700**



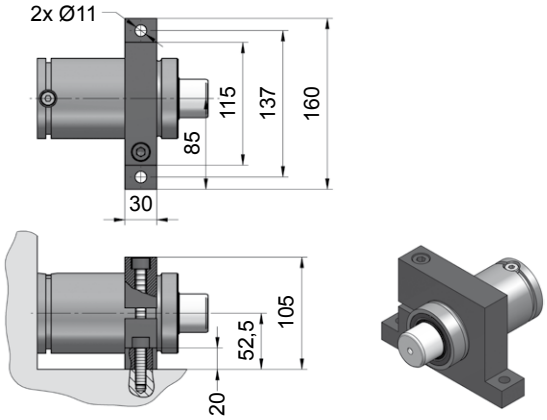
NC.88.00.075.0114



NC.88.00.075.0134



NC.88.00.075.0320



NC.88.00.075.0402

NC.030.18.07500

Technische Daten:

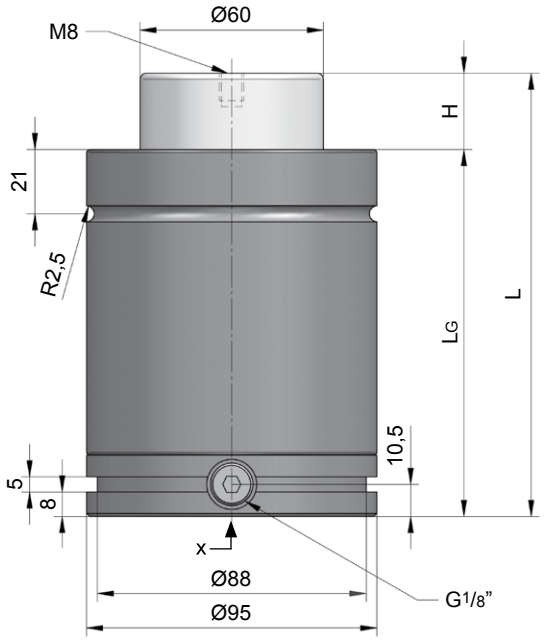
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

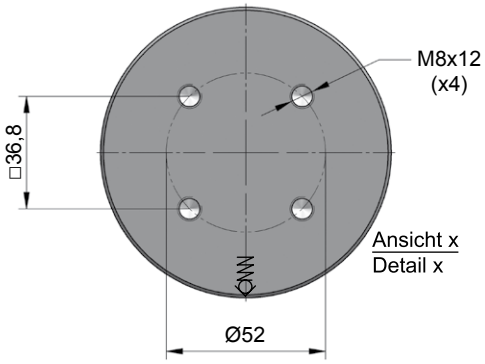
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

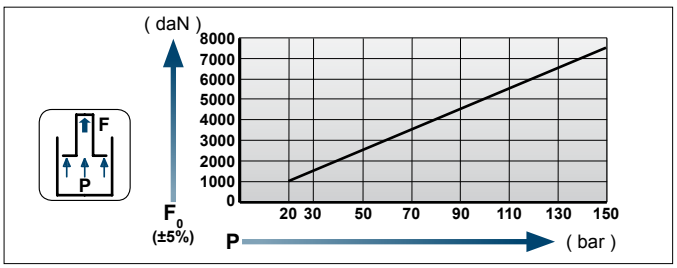
Attention: Maintenance only at manufacturer's site!

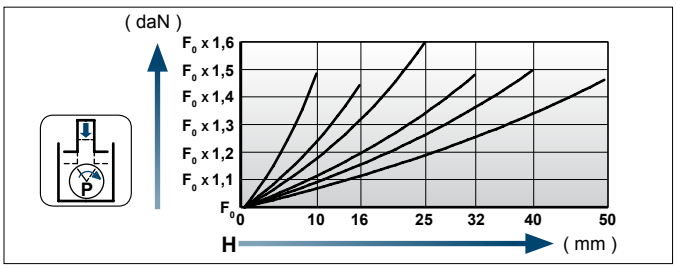


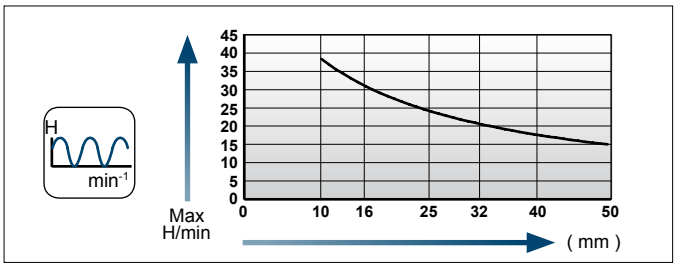


NC.030.18.07500.040

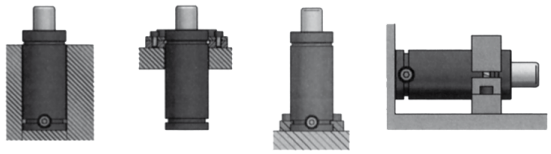
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	90	80	7540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	116	100	7540	
025	145	120	7540	
032	182	150	7540	
040	210	170	7540	
050	255	205	7540	





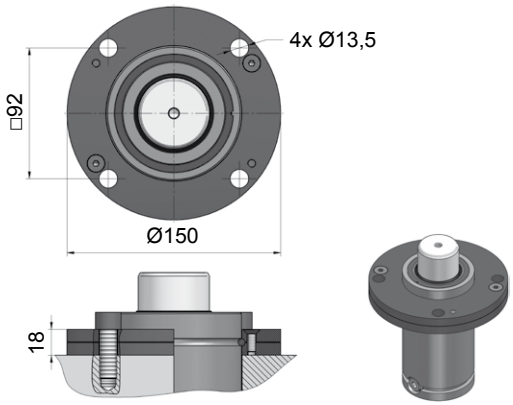


Einbaubeispiele / Flange mounting options

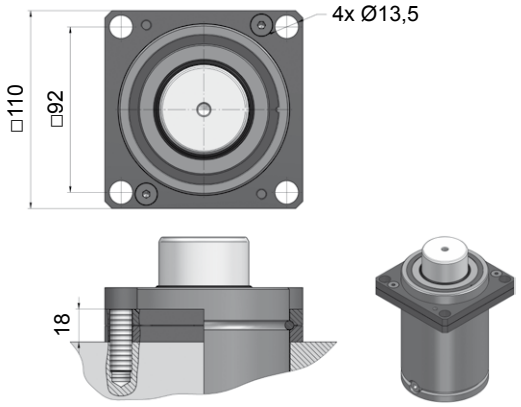


[NC]

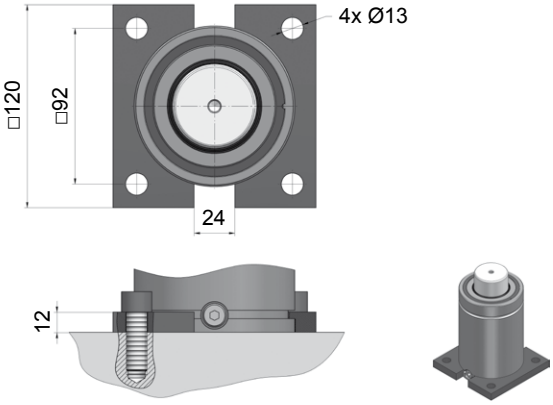
Flansche für / Flanges for **NC.030.18.07500**



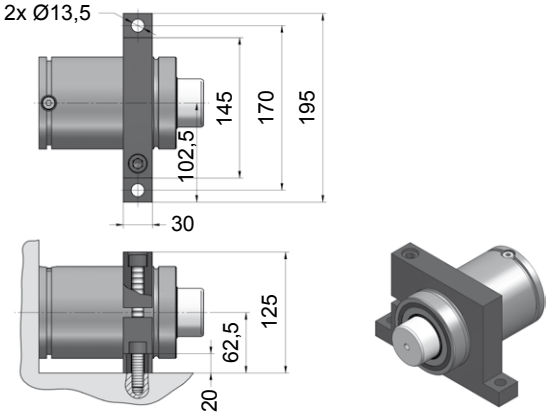
NC.88.00.095.0114



NC.88.00.095.0134



NC.88.00.095.0320



NC.88.00.095.0402

NC.030.18.11800

Technische Daten:

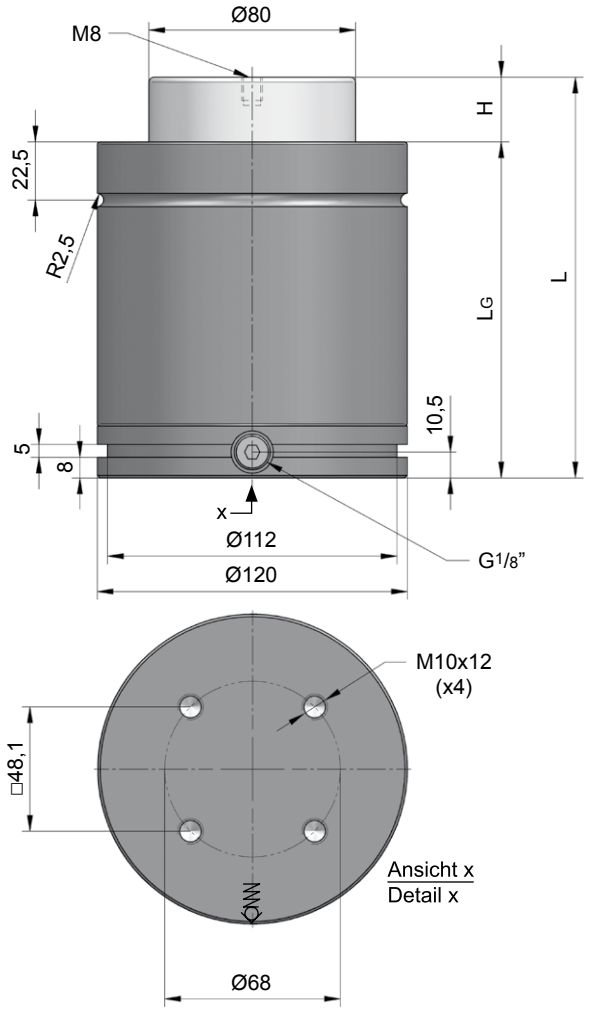
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

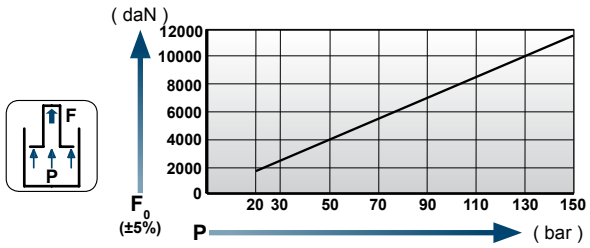
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

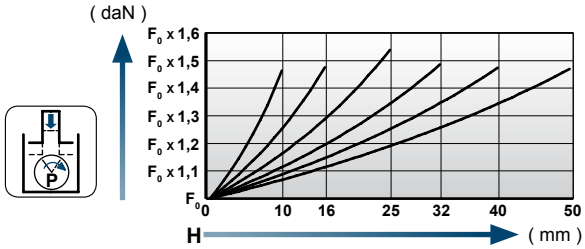
Attention: Maintenance only at manufacturer's site!

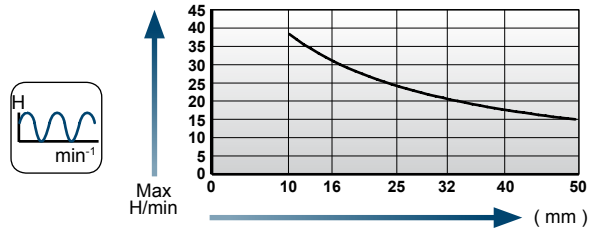


NC.030.18.11800.050

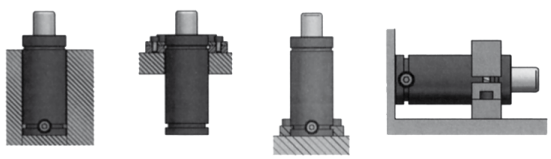
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	100	90	11780	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	126	110	11780	
025	155	130	11780	
032	187	155	11780	
040	220	180	11780	
050	260	210	11780	



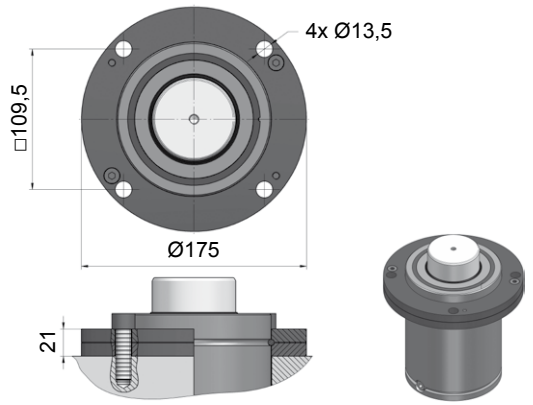




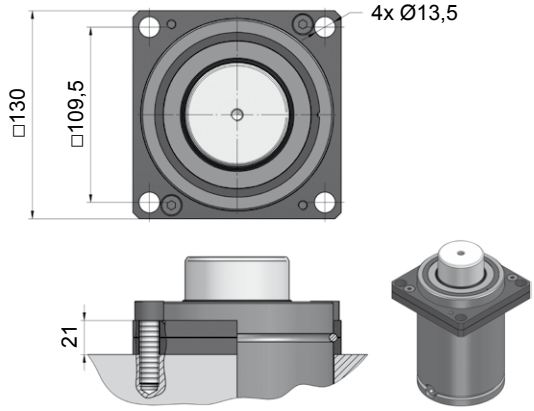
Einbaubeispiele / Flange mounting options



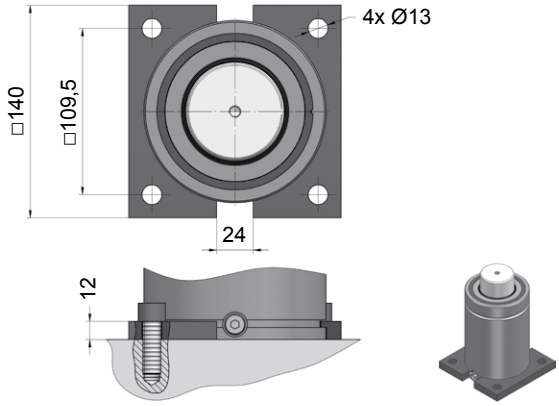
Flansche für / Flanges for **NC.030.18.11800**



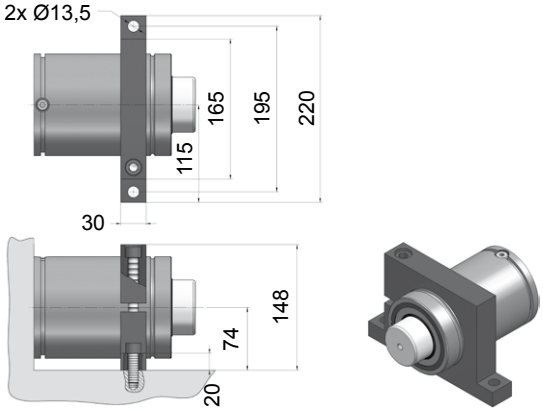
NC.88.00.120.0114



NC.88.00.120.0134



NC.88.00.120.0320



NC.88.00.120.0402

NC.030.18.18300

Technische Daten:

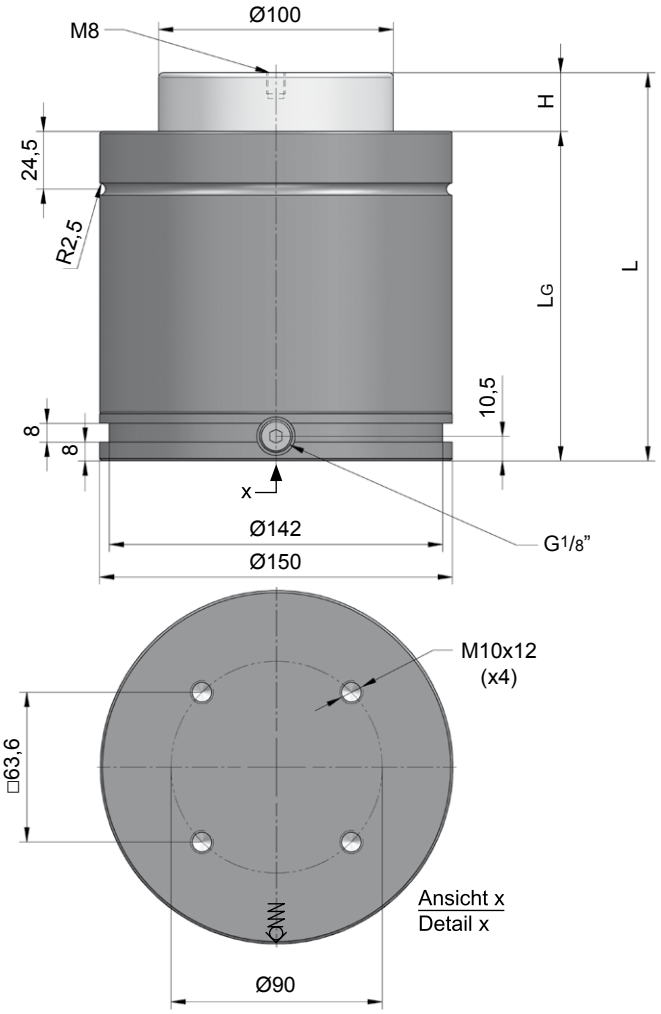
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

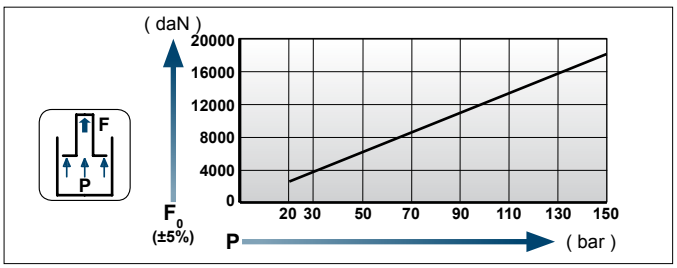
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

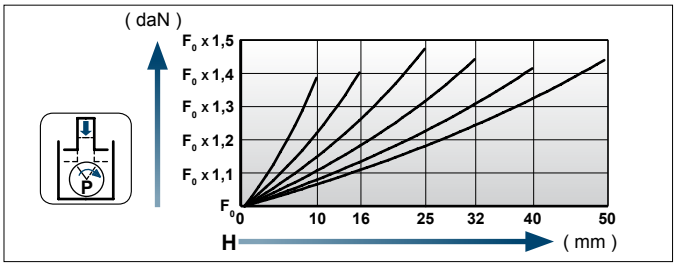
Attention: Maintenance only at manufacturer's site!

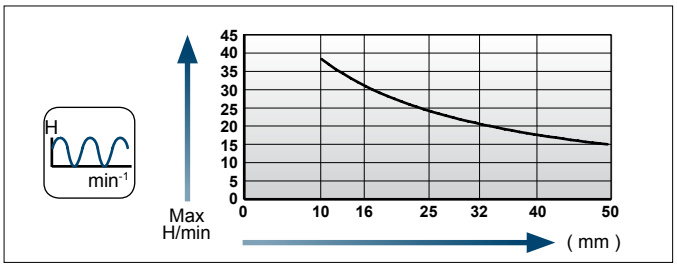


NC.030.18.18300.010

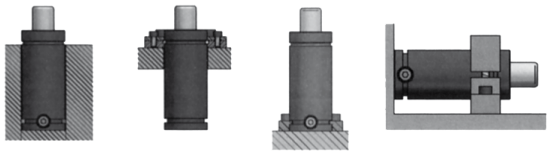
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	110	100	18410	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	136	120	18410	
025	165	140	18410	
032	197	165	18410	
040	235	195	18410	
050	270	220	18410	





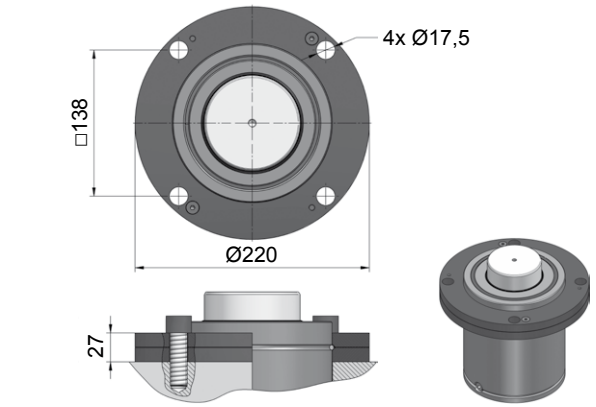


Einbaubeispiele / Flange mounting options

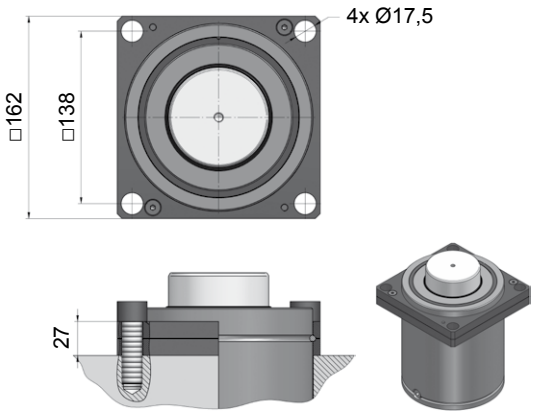


[NC]

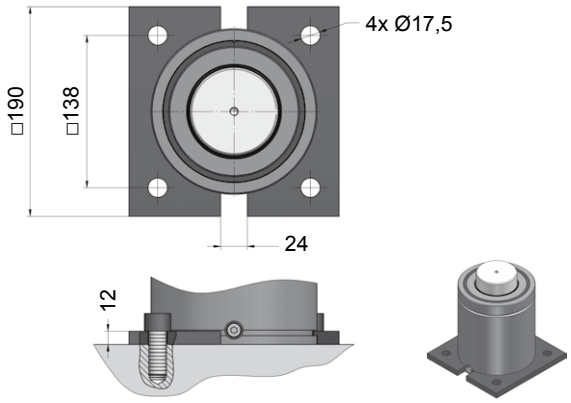
Flansche für / Flanges for **NC.030.18.18300**



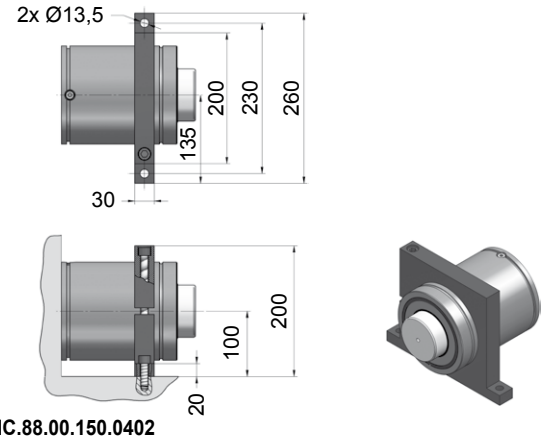
NC.88.00.150.0114



NC.88.00.150.0134



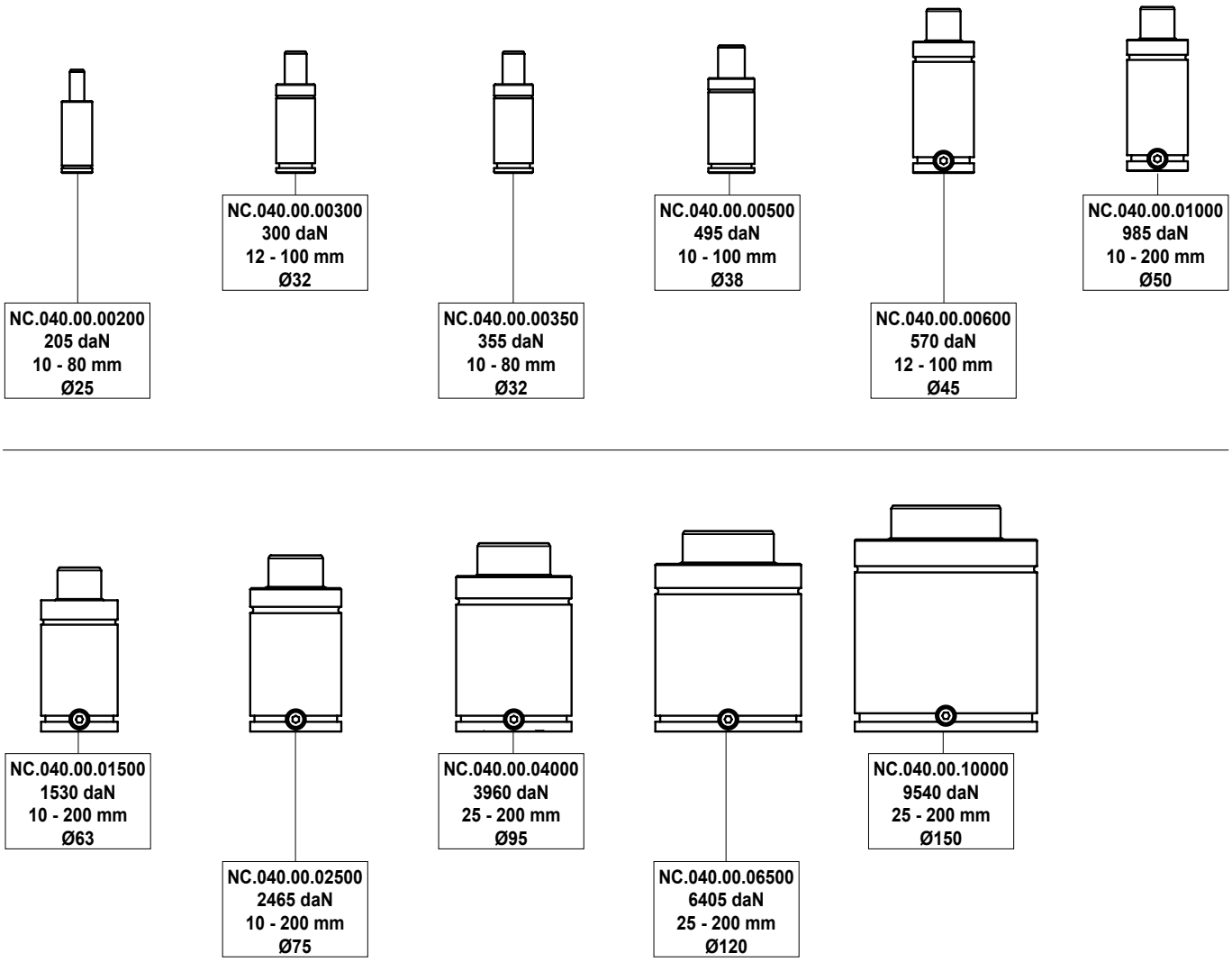
NC.88.00.150.0320



NC.88.00.150.0402

Größenübersicht Serie NC.040.00

Gas spring index NC.040.00 series



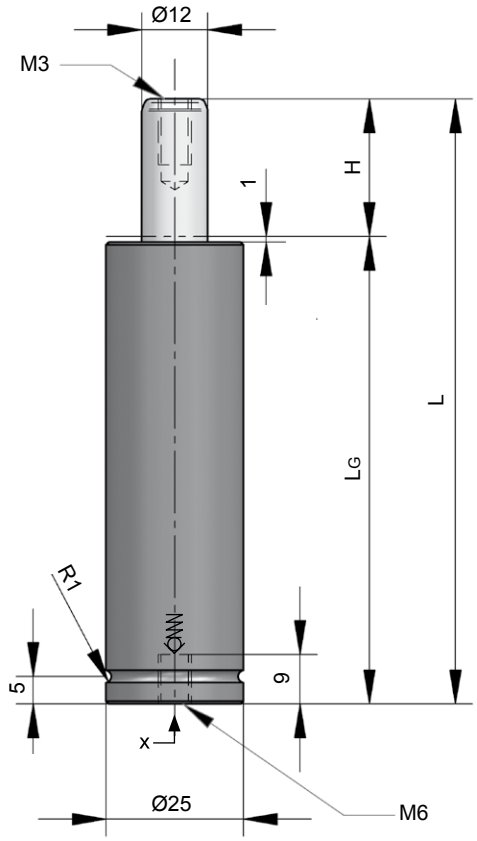
NC.040.00.00200

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

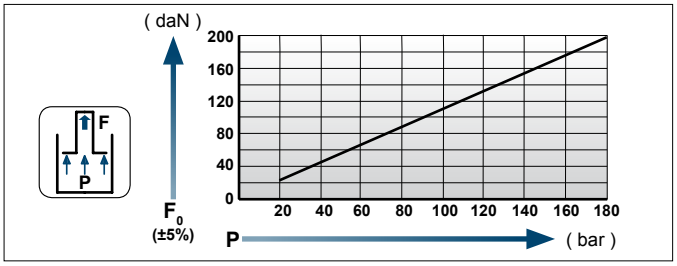
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

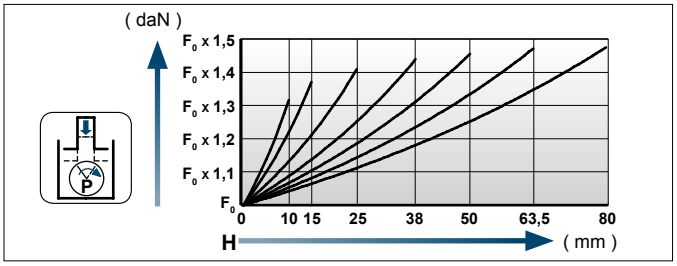


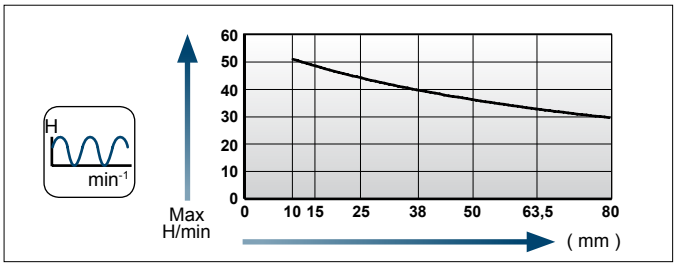
Ansicht x
Detail x

NC.040.00.00200.015

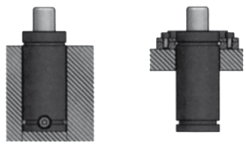
H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	80	70	205	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	90	75	205	
025	110	85	205	
038	136	98	205	
050	160	110	205	
063,5	186,5	123	205	
080	220	140	205	





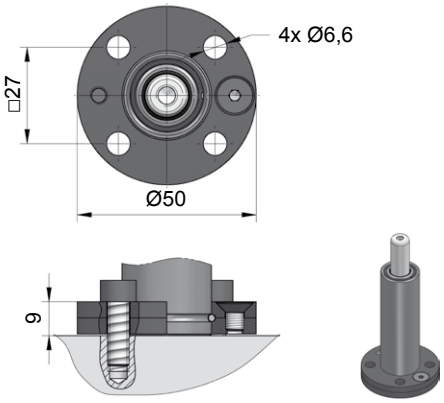


Einbaubeispiele / Flange mounting options

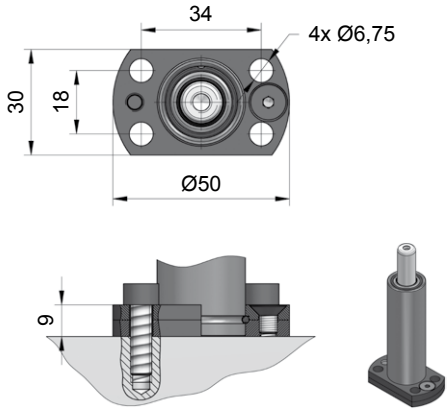


[NC]

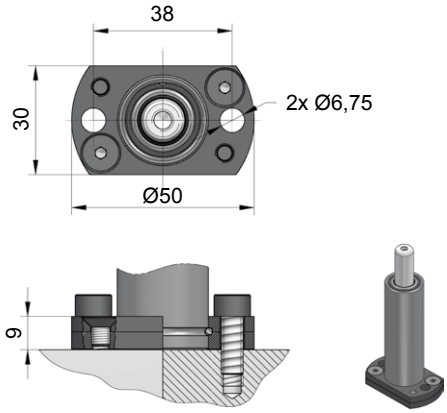
Flansche für / Flanges for **NC.040.00.00200**



NC.88.00.025.0114



NC.88.00.025.0144



NC.88.00.025.0149

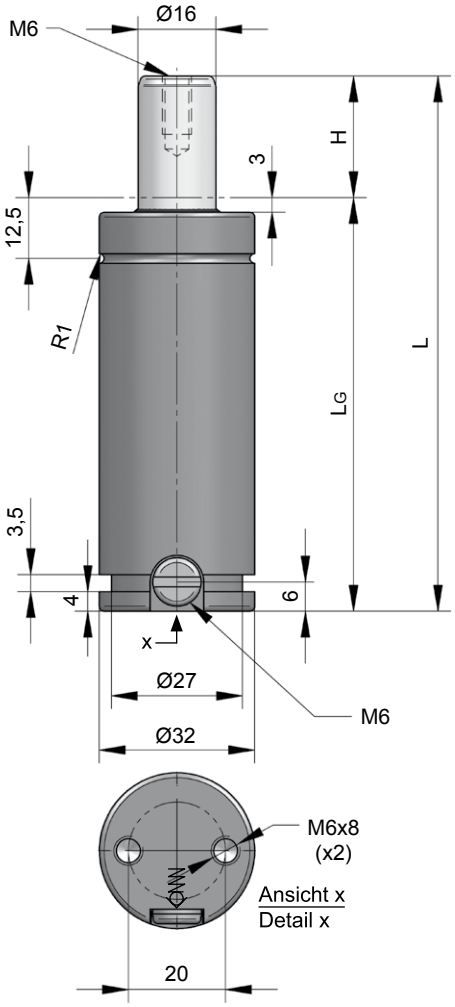
NC.040.00.00300

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

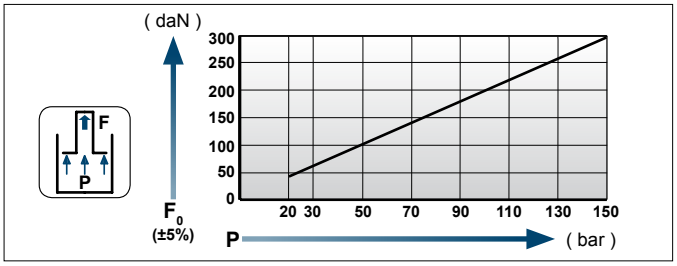
Specifications:

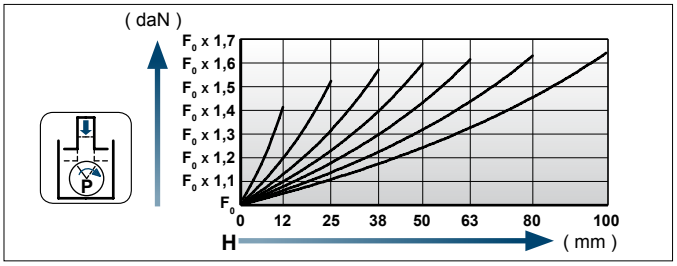
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

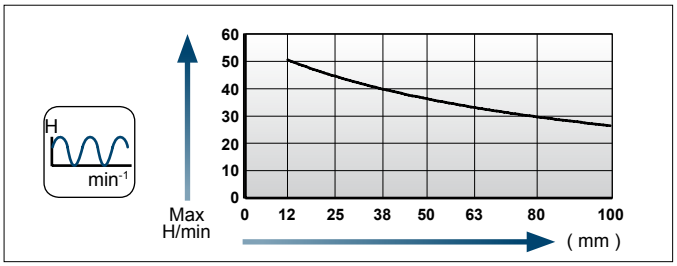


NC.040.00.00300.012

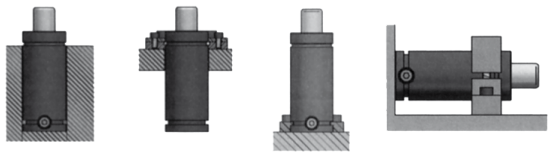
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	300	
038	136	98	300	
050	160	110	300	
063	186	123	300	
080	220	140	300	
100	260	160	300	



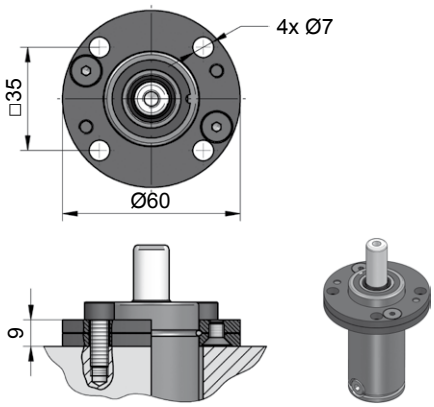




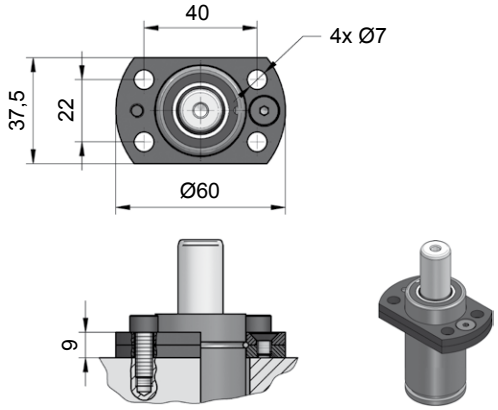
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.040.00.00300**



NC.88.00.032.0114



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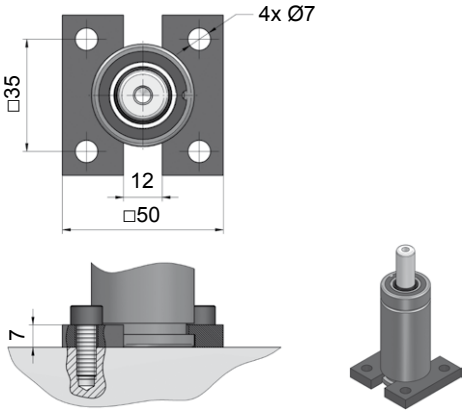
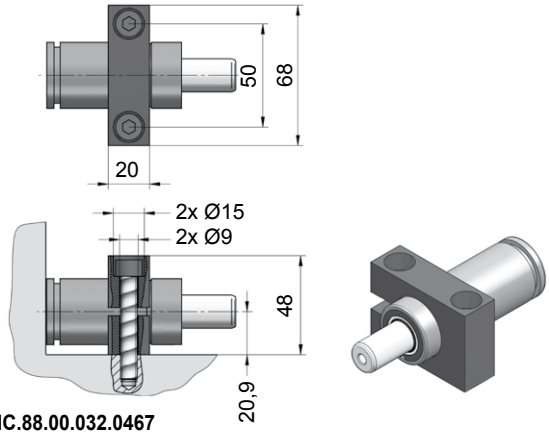


NC.88.00.032.0320



NC.88.00.032.0467

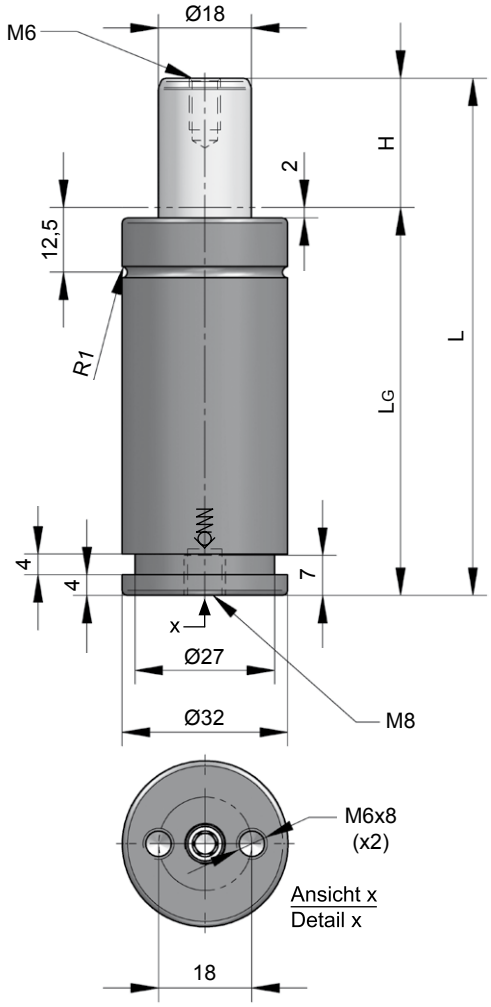
NC.040.00.00350

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

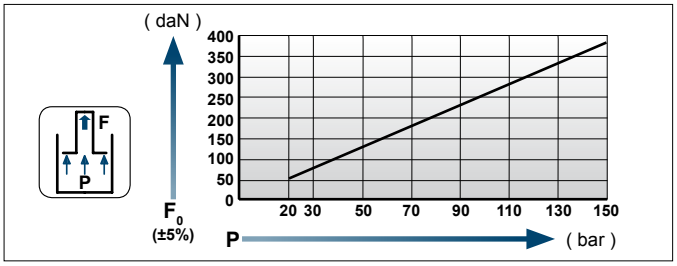
Specifications:

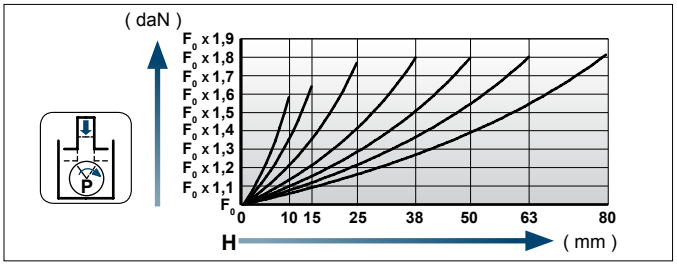
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

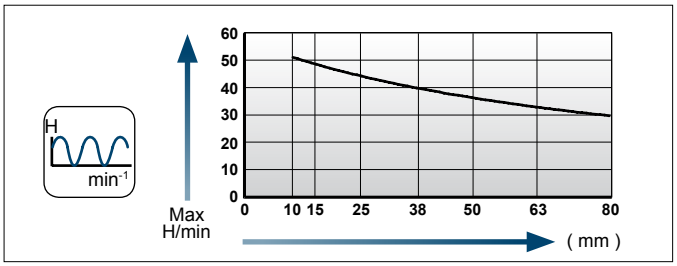


NC.040.00.00350.015

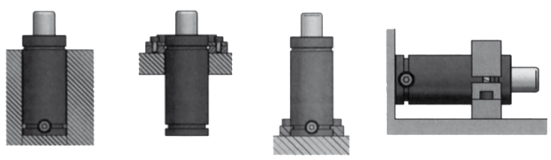
H Hub / Stroke	L ±0,25	LG	Kraft / Force (140 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	355	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	80	65	355	
025	100	75	355	
038	126	88	355	
050	150	100	355	
063	176	113	355	
080	210	130	355	





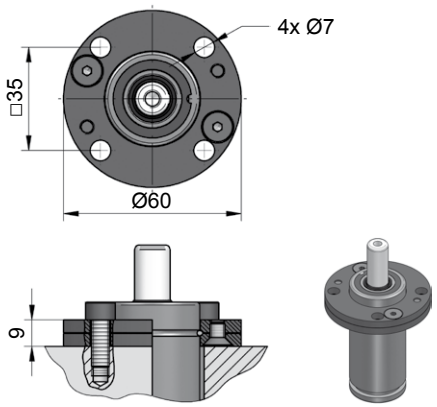


Einbaubeispiele / Flange mounting options

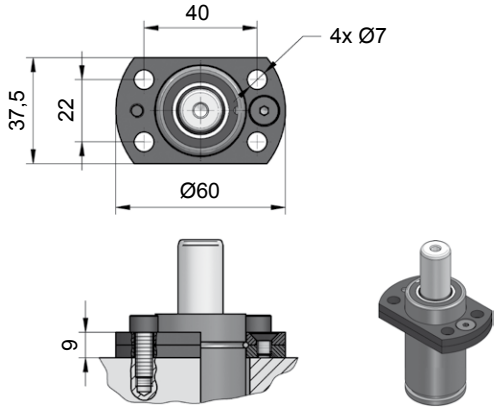


[NC]

Flansche für / Flanges for **NC.040.00.00350**



NC.88.00.032.0114



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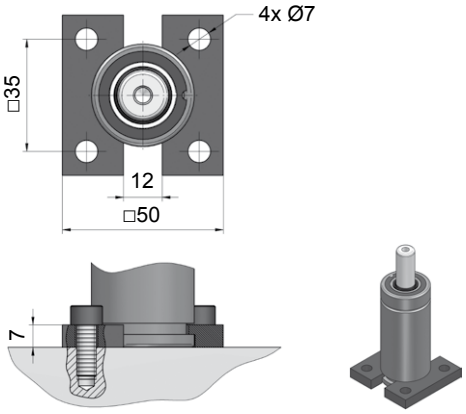

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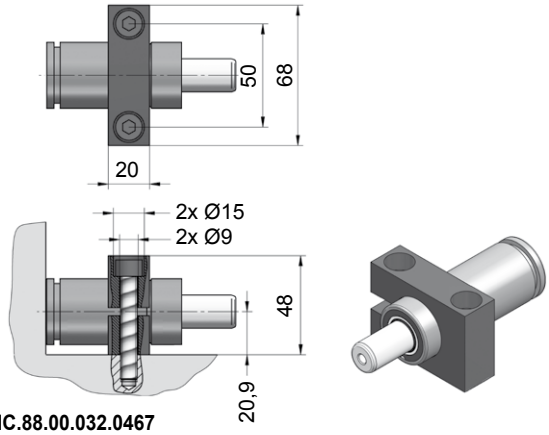


NC.88.00.032.0467

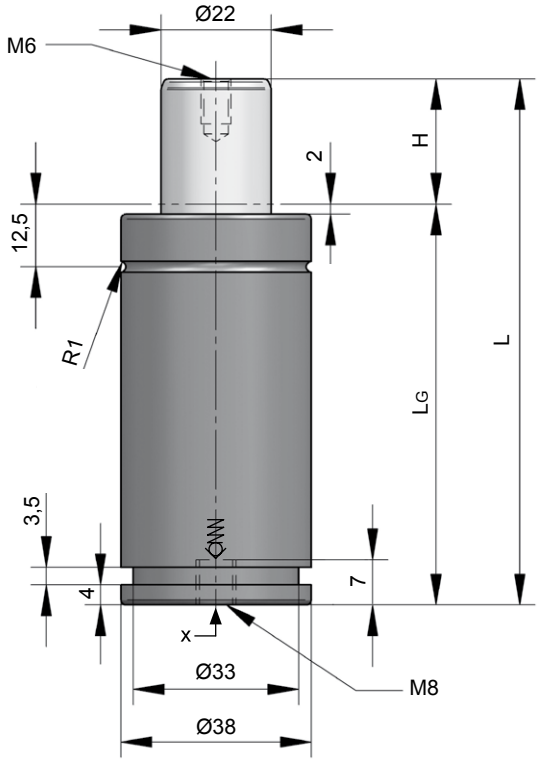
NC.040.00.00500

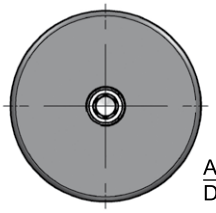
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

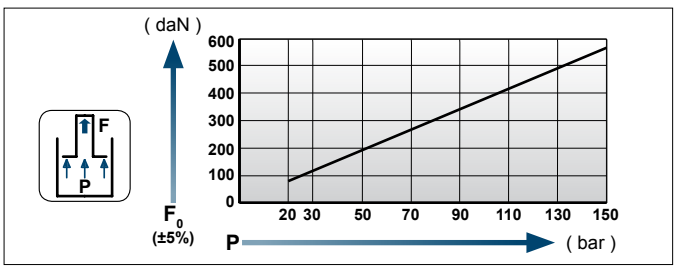
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

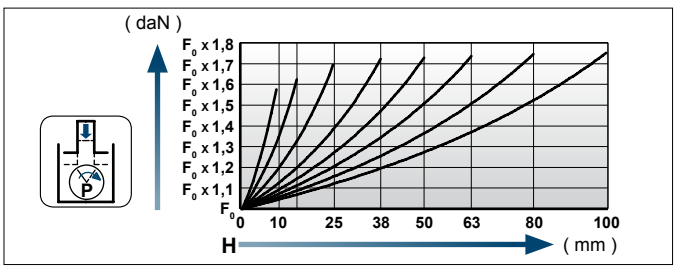


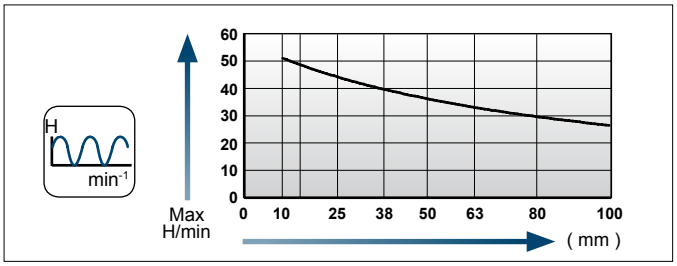


NC.040.00.00500.038

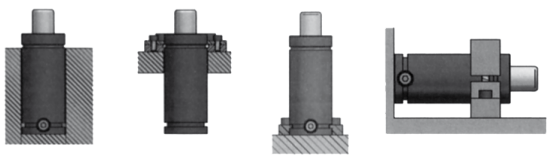
H Hub / Stroke	L ±0,25	LG	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	75	65	495	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	85	70	495	
025	105	80	495	
038	131	93	495	
050	155	105	495	
063	186	123	495	
080	220	140	495	
100	260	160	495	



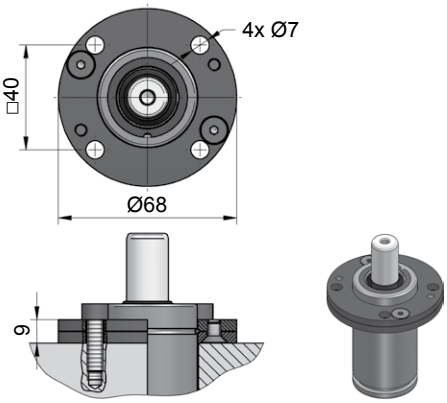




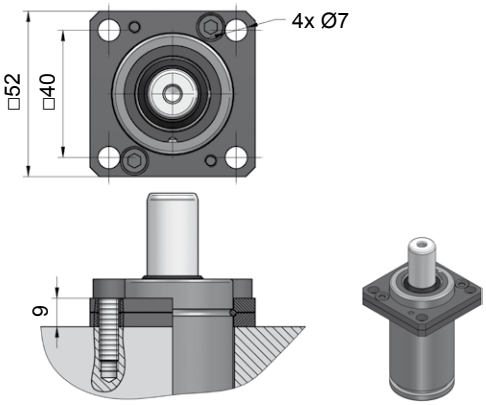
Einbaubeispiele / Flange mounting options



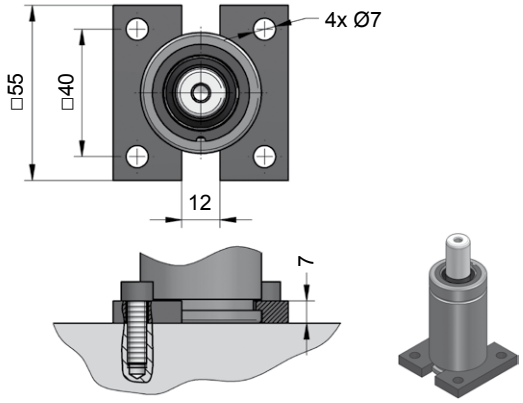
Flansche für / Flanges for **NC.040.00.00500**



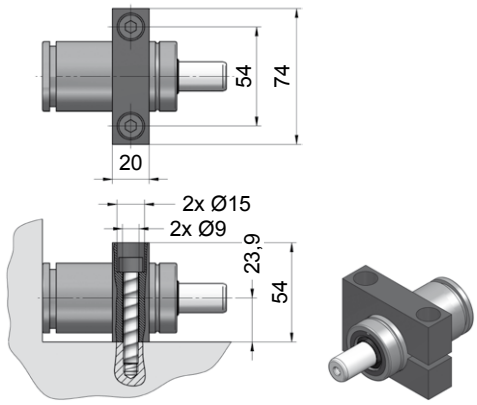
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0320



NC.88.00.038.0467

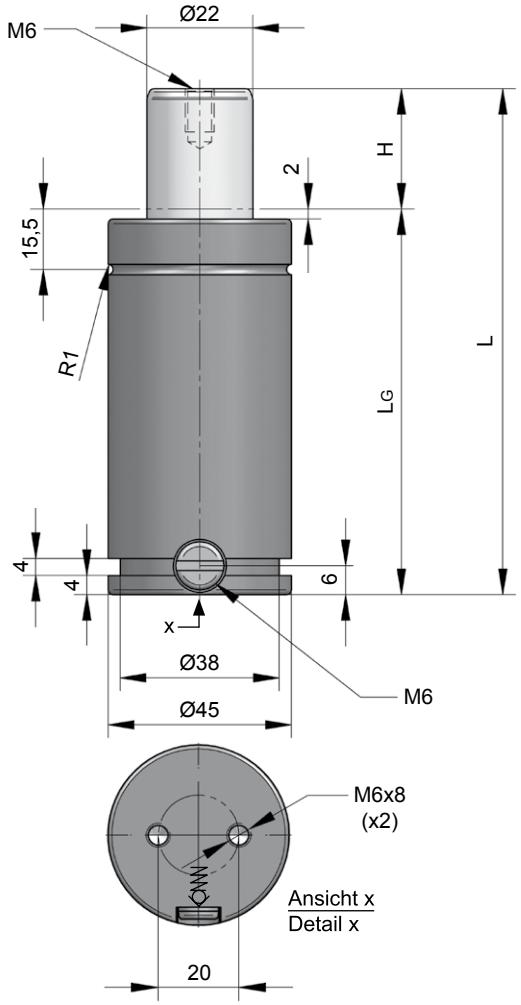
NC.040.00.00600

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

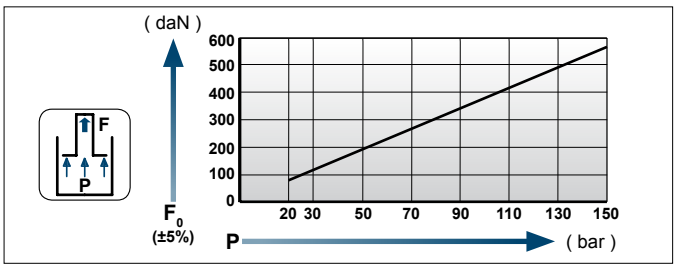
Specifications:

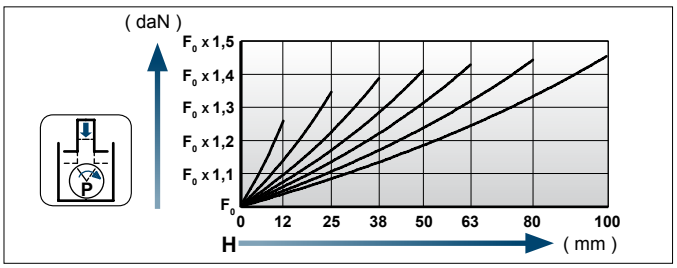
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

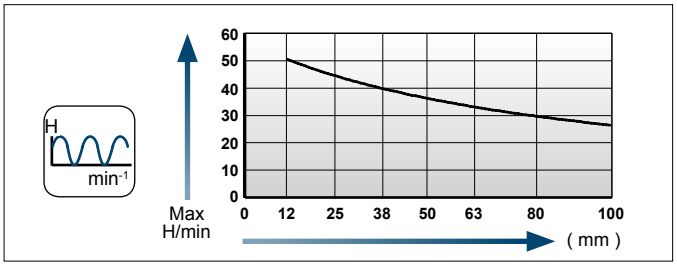


NC.040.00.
00600.038

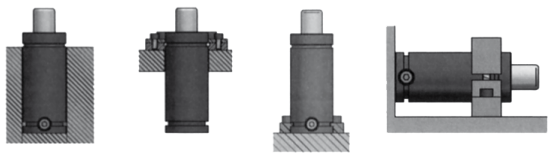
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	570	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	570	
038	136	98	570	
050	160	110	570	
063	186	123	570	
080	220	140	570	
100	260	160	570	





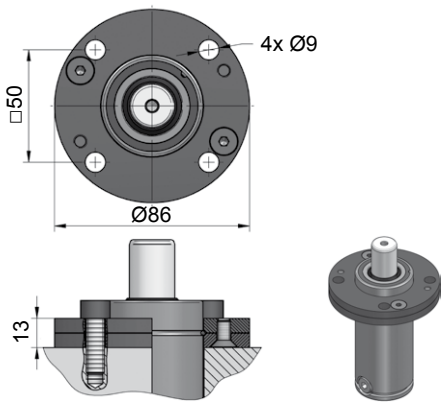


Einbaubeispiele / Flange mounting options

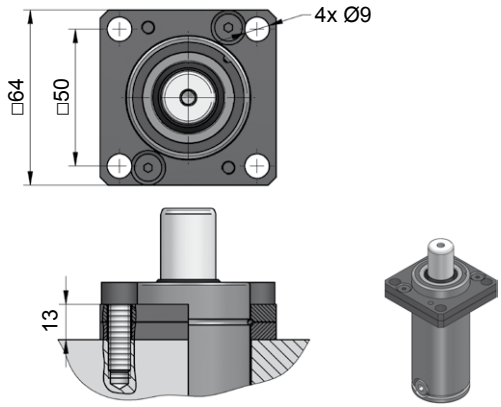


[NC]

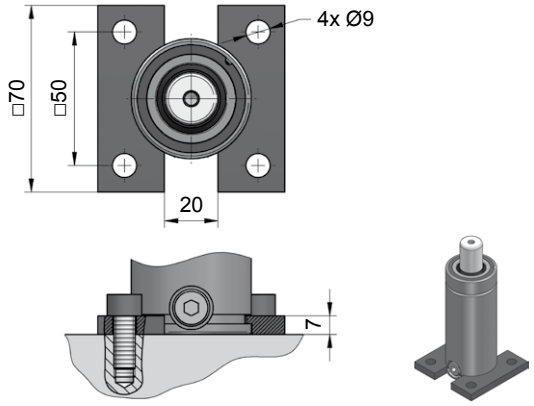
Flansche für / Flanges for **NC.040.00.00600**



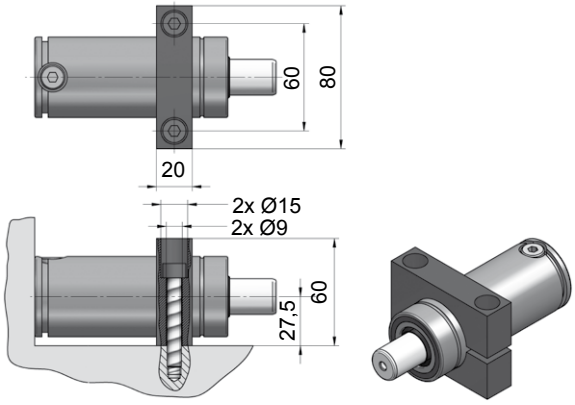
NC.88.00.045.0114



NC.88.00.045.0134



NC.88.00.045.0320



NC.88.00.045.0467

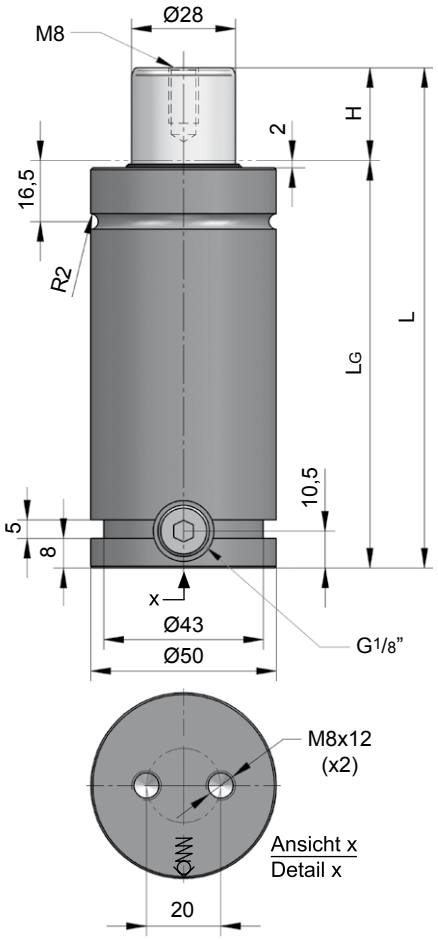
NC.040.00.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

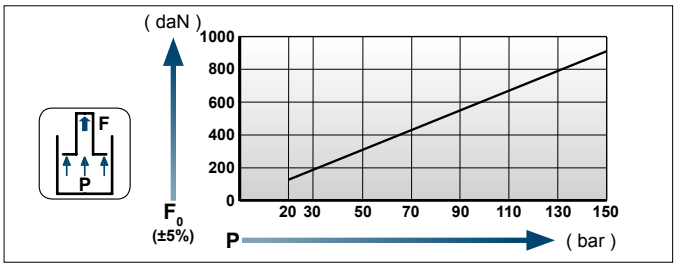
Specifications:

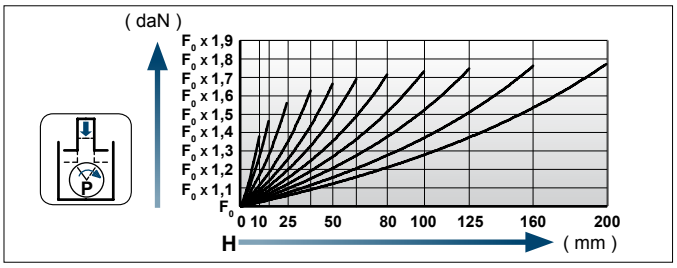
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

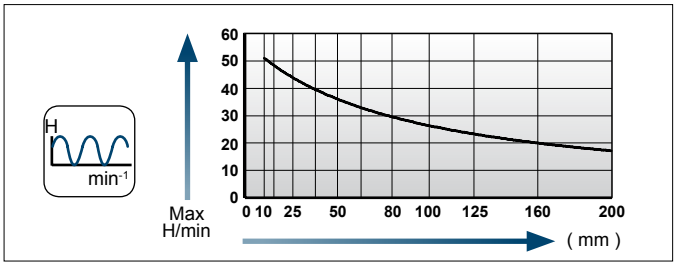


NC.040.00.01000.038

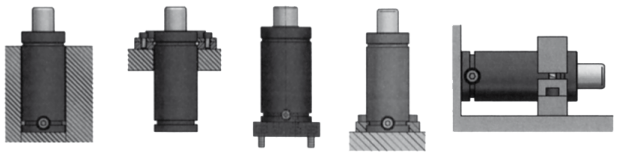
H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	105	95	985	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	115	100	985	
025	135	110	985	
038	161	123	985	
050	185	135	985	
063	211	148	985	
080	245	165	985	
100	295	195	985	
125	345	220	985	
160	415	255	985	
200	495	295	985	





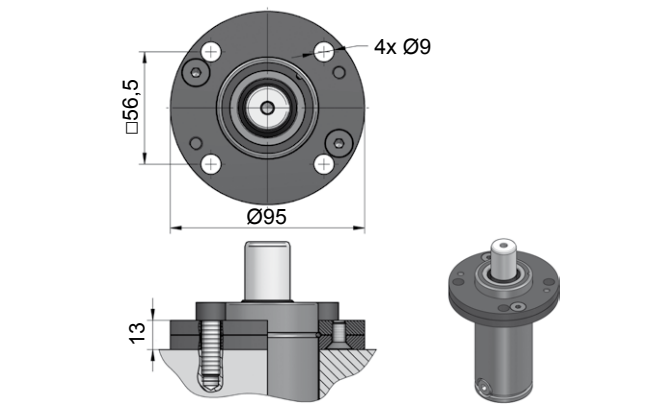


Einbaubeispiele / Flange mounting options

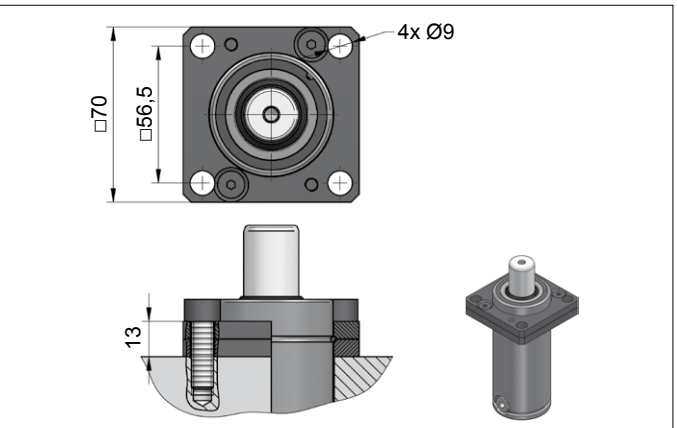


[NC]

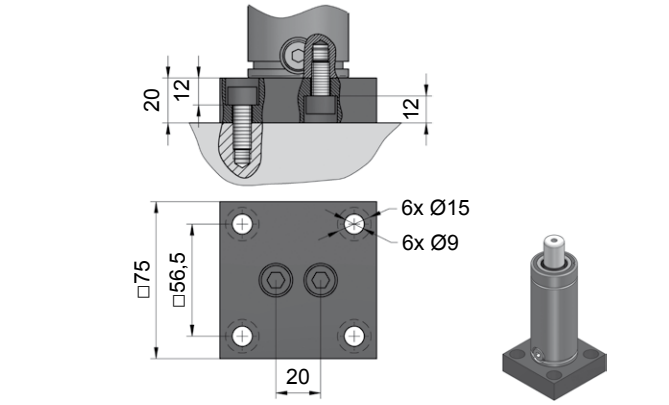
Flansche für / Flanges for **NC.040.00.01000**



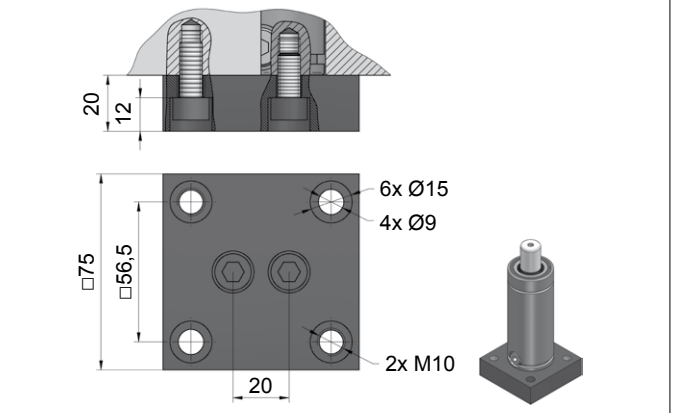
NC.88.00.050.0114



NC.88.00.050.0134



NC.88.00.050.0221



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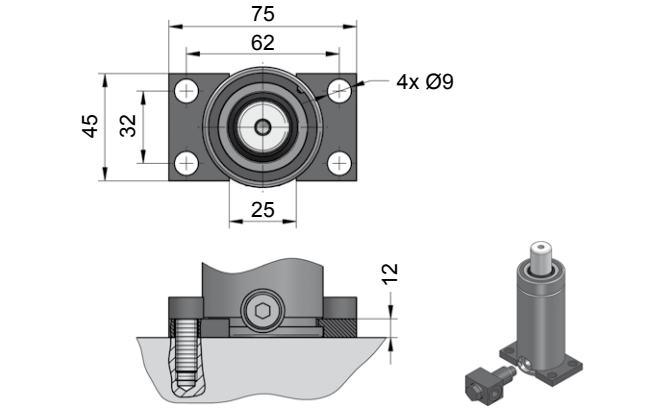

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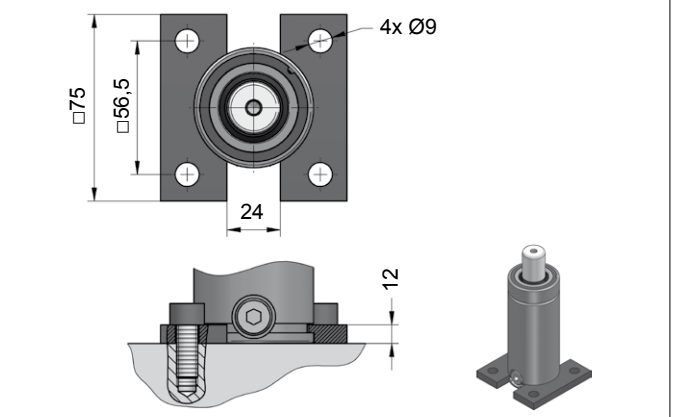

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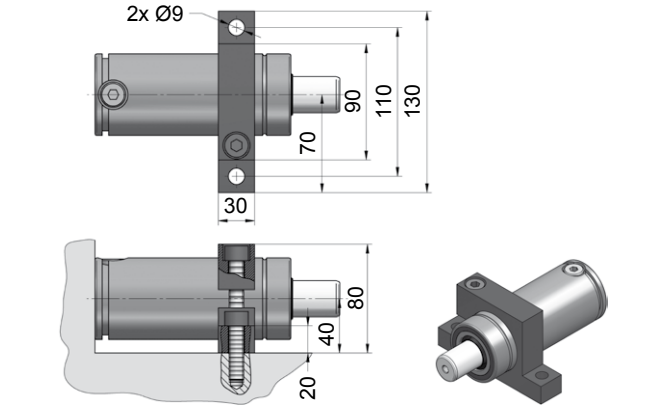
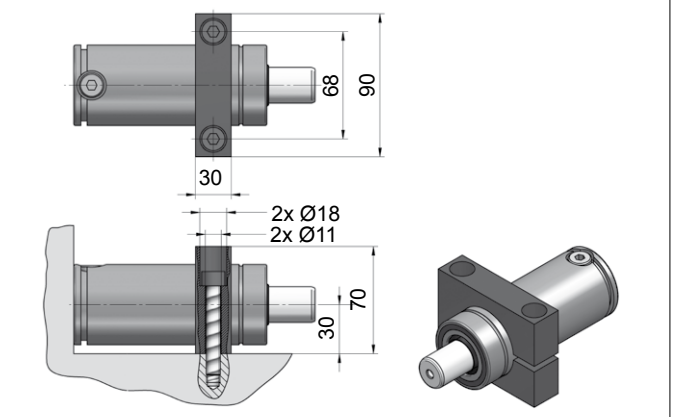


NC.88.00.050.0402



NC.88.00.050.0467

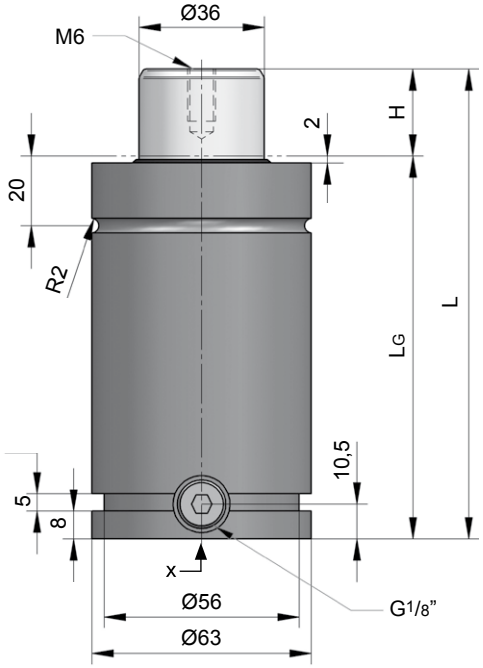
NC.040.00.01500

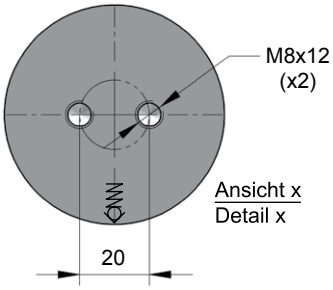
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

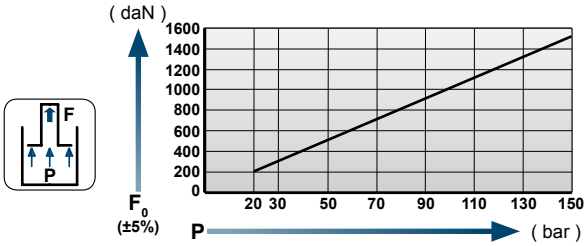
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

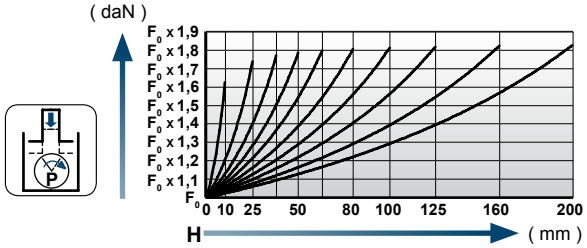


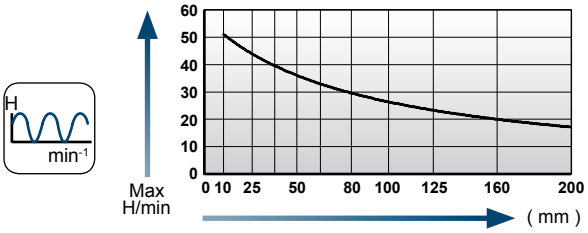


NC.040.00.01500.050

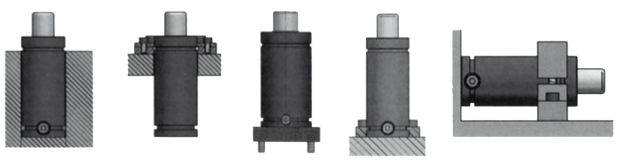
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	105	95	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	135	110	1530	
038	161	123	1530	
050	185	135	1530	
063	211	148	1530	
080	245	165	1530	
100	285	185	1530	
125	345	220	1530	
160	415	255	1530	
200	495	295	1530	



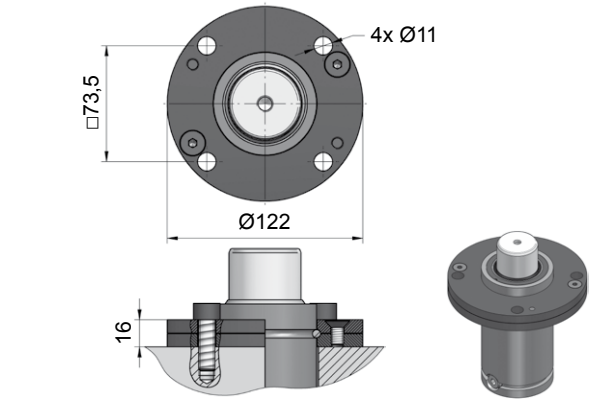




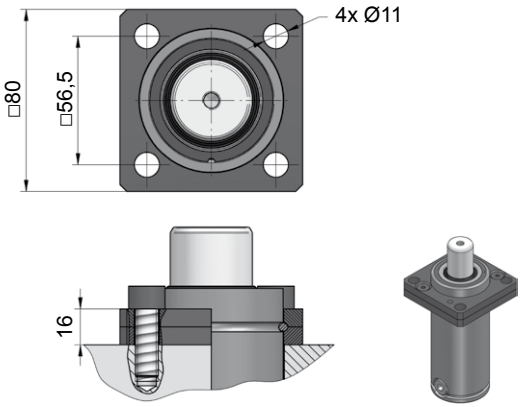
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.040.00.01500**



NC.88.00.063.0114



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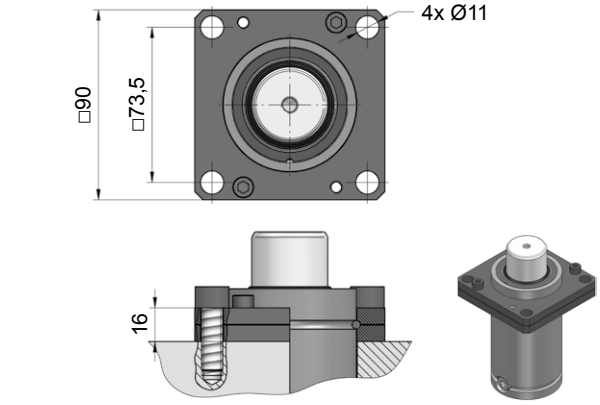

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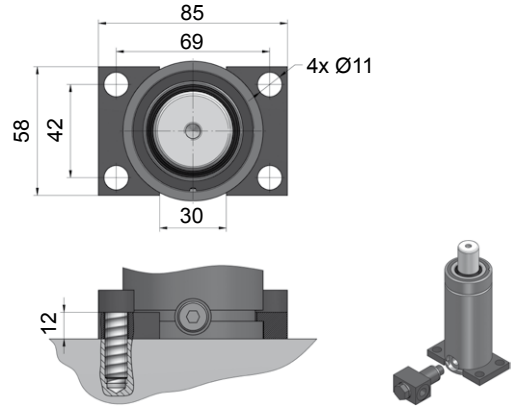
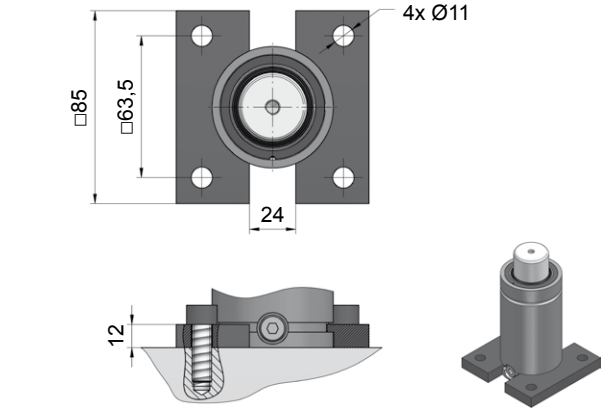


NC.88.00.063.0305



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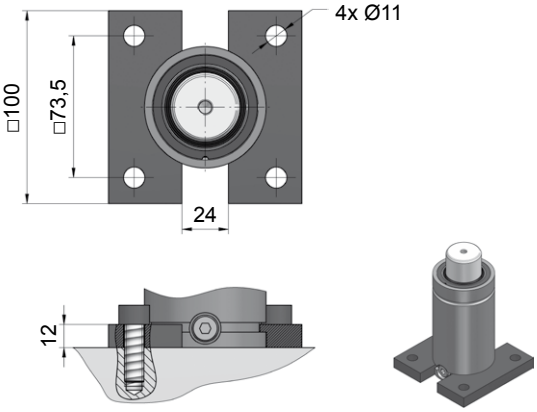

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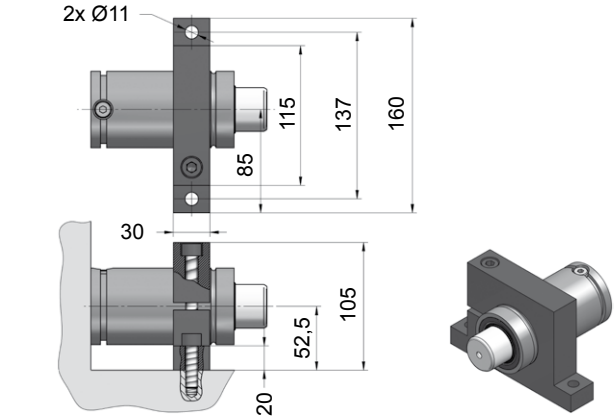

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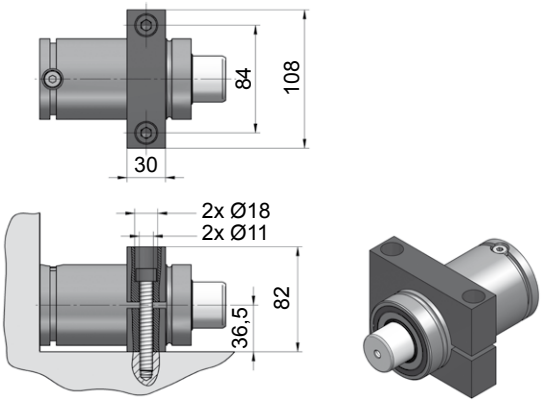


NC.88.00.063.0467

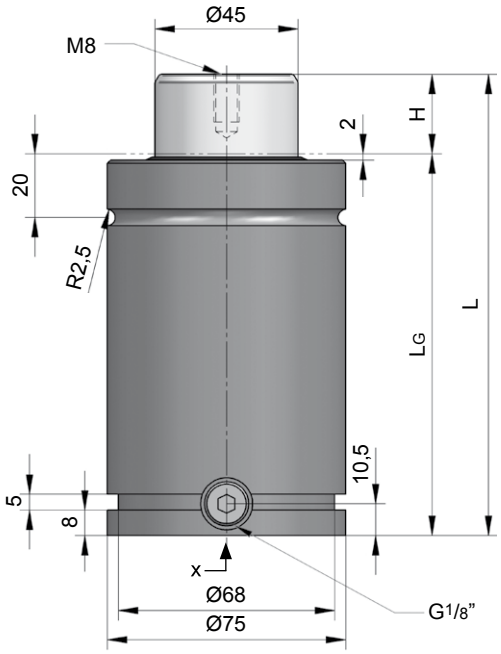
NC.040.00.02500

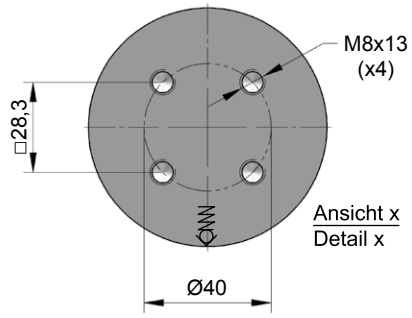
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

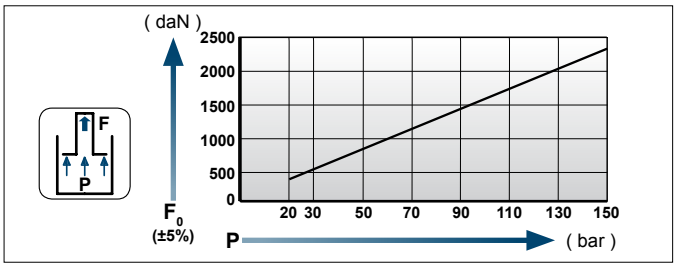
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

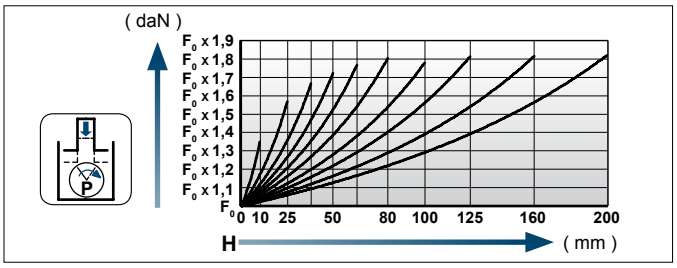


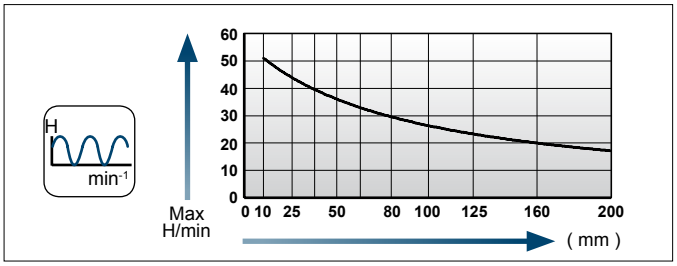


NC.040.00.02500.063

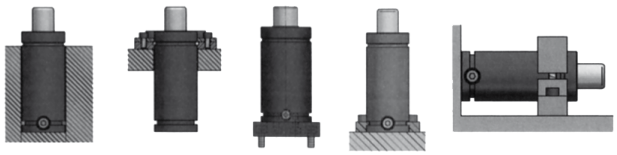
H Hub / Stroke	L ±0,25	LG	Kraft / Force (155 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	115	105	2465	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	145	120	2465	
038	171	133	2465	
050	195	145	2465	
063	221	158	2465	
080	255	175	2465	
100	300	200	2465	
125	350	225	2465	
160	425	265	2465	
200	510	310	2465	



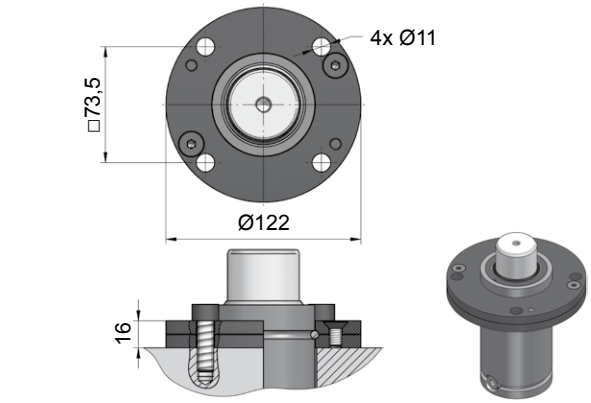




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.040.00.02500**



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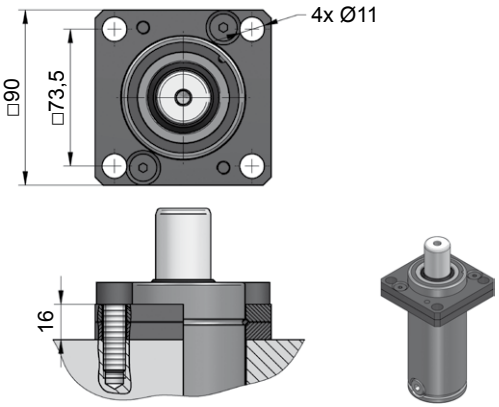

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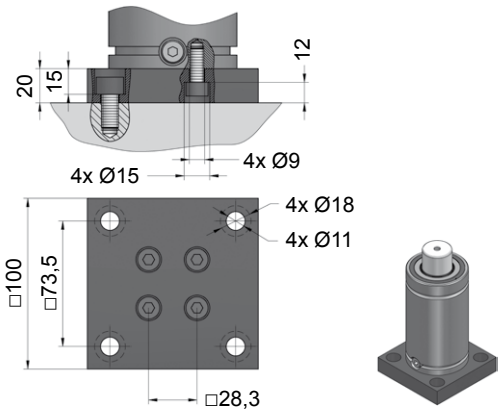

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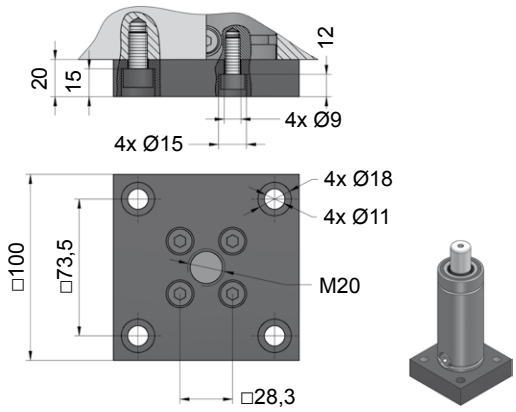

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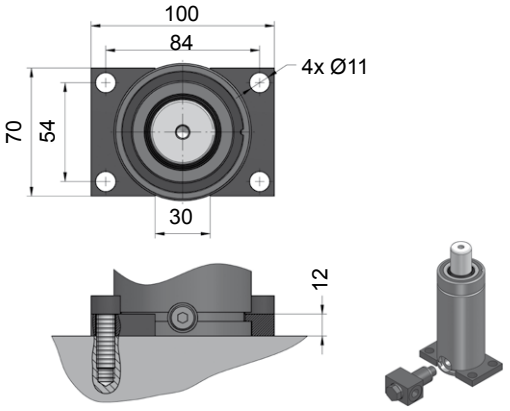

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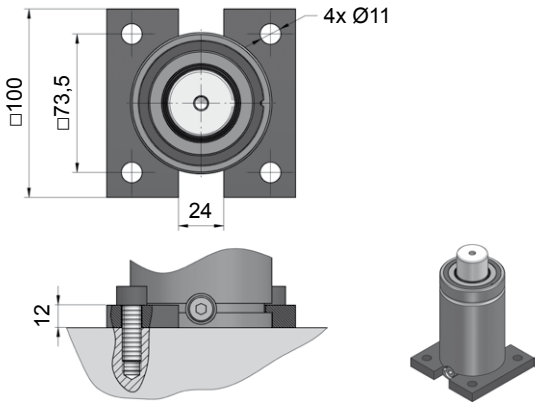

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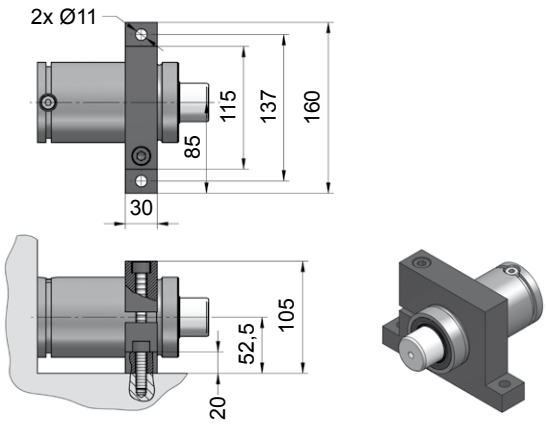

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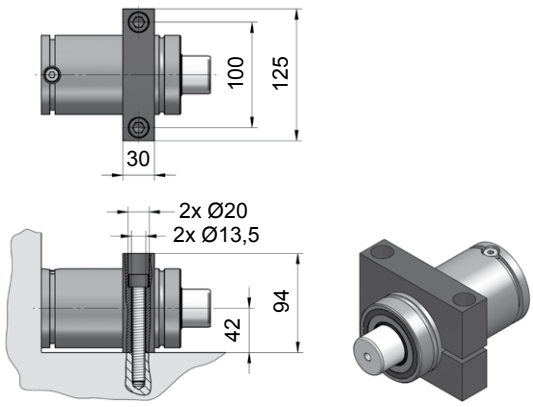


NC.88.00.075.0467

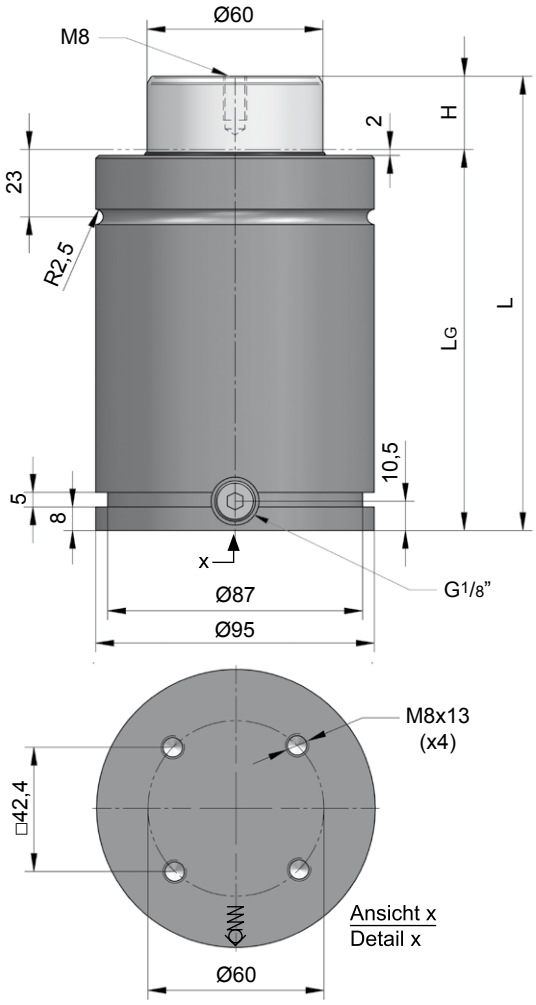
NC.040.00.04000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

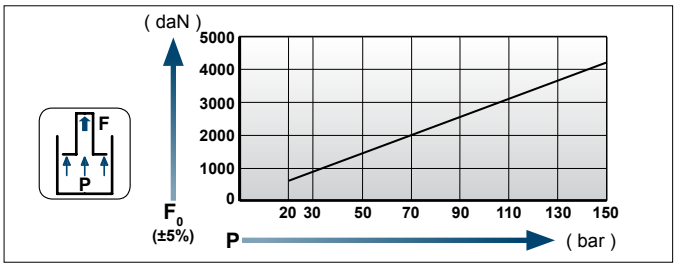
Specifications:

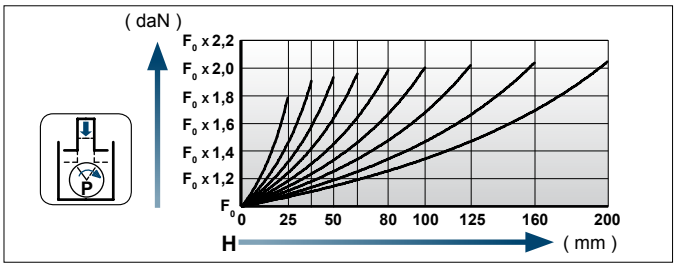
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

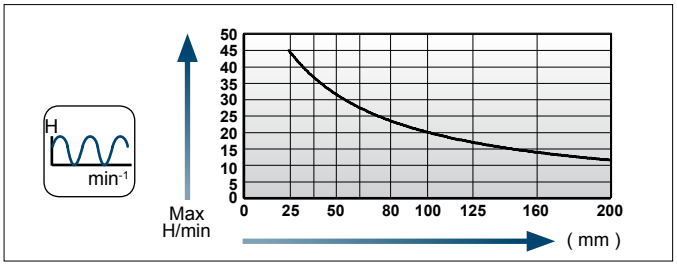


NC.040.00.04000.080

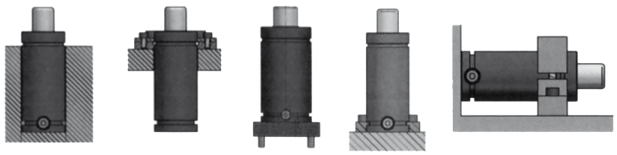
H Hub / Stroke	L ±0,25	LG	Kraft / Force (140 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	155	130	3960	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	181	143	3960	
050	205	155	3960	
063	236	173	3960	
080	270	190	3960	
100	310	210	3960	
125	370	245	3960	
160	440	280	3960	
200	530	330	3960	







Einbaubeispiele / Flange mounting options



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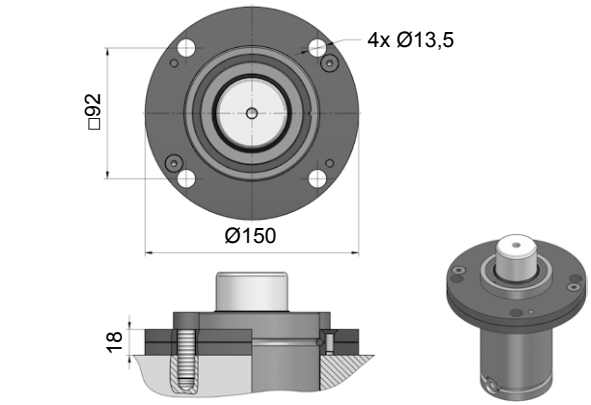
Flansche für / Flanges for **NC.040.00.04000**



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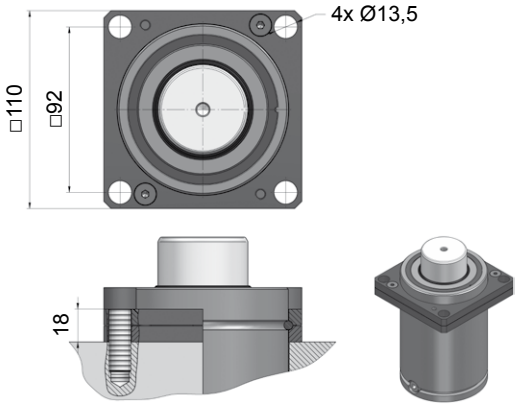

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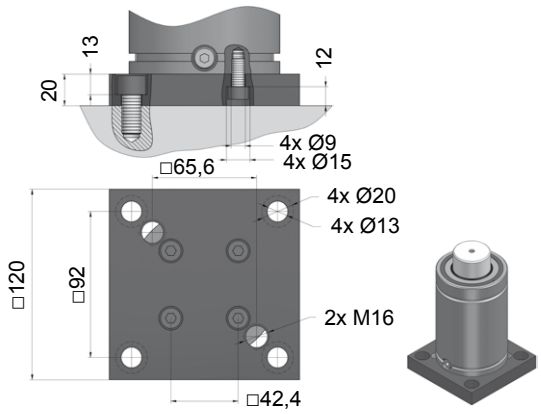

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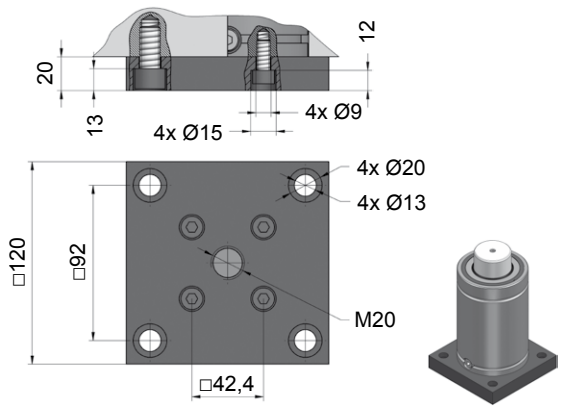

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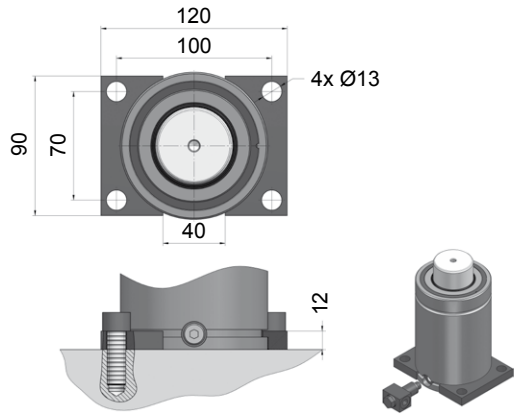

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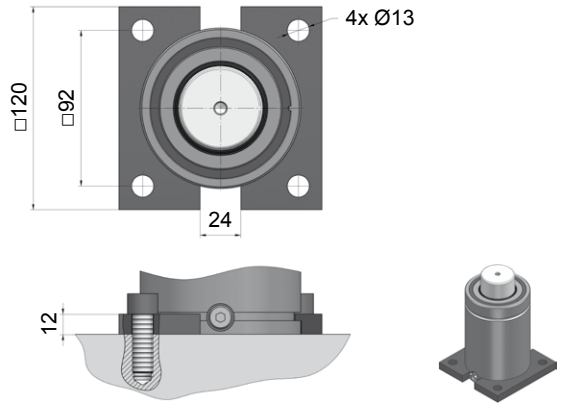
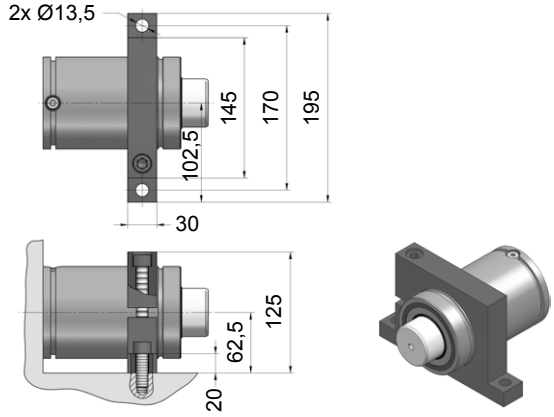


NC.88.00.095.0320



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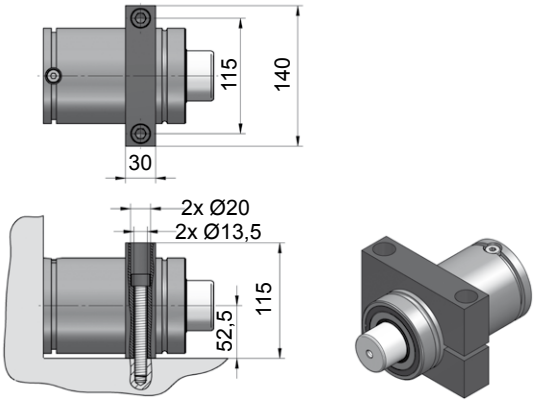


NC.88.00.095.0467

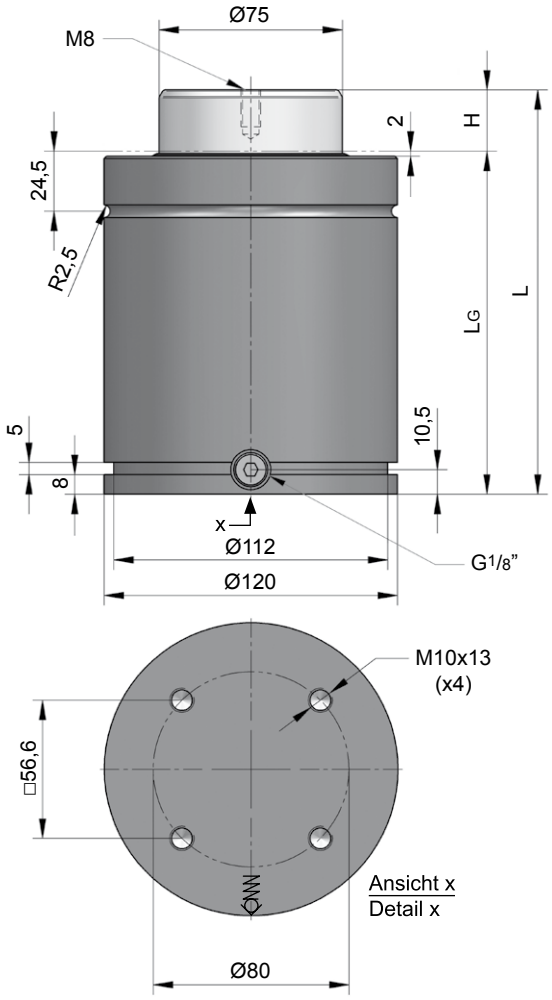
NC.040.00.06500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

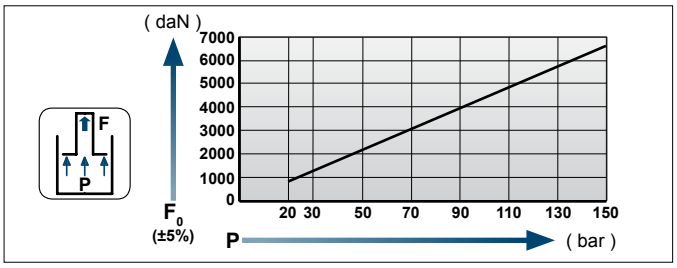
Specifications:

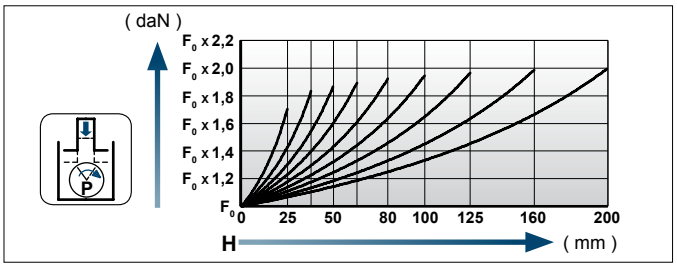
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

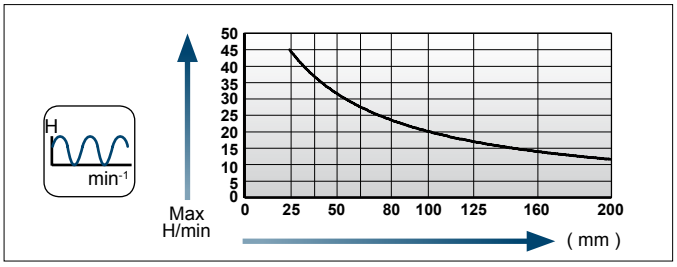


NC.040.00.06500.080

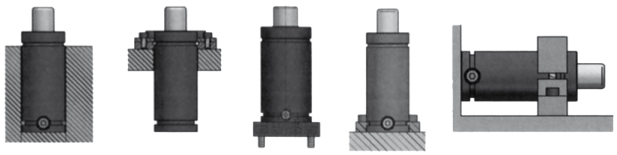
H Hub / Stroke	L ±0,25	LG	Kraft / Force (145 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	165	140	6405	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	191	153	6405	
050	215	165	6405	
063	241	178	6405	
080	275	195	6405	
100	315	215	6405	
125	375	250	6405	
160	450	290	6405	
200	540	340	6405	







Einbaubeispiele / Flange mounting options



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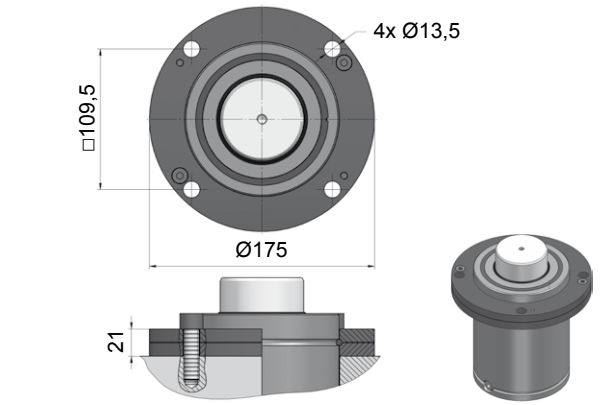
Flansche für / Flanges for **NC.040.00.06500**



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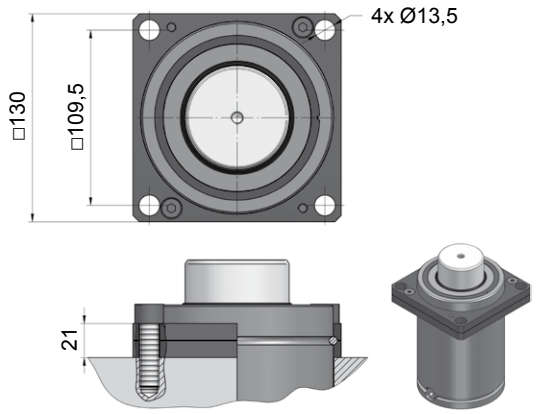

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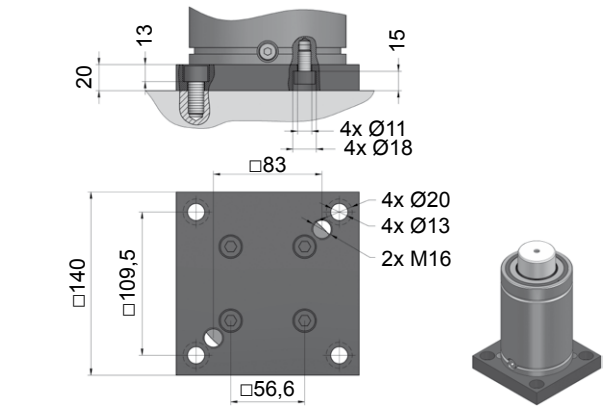

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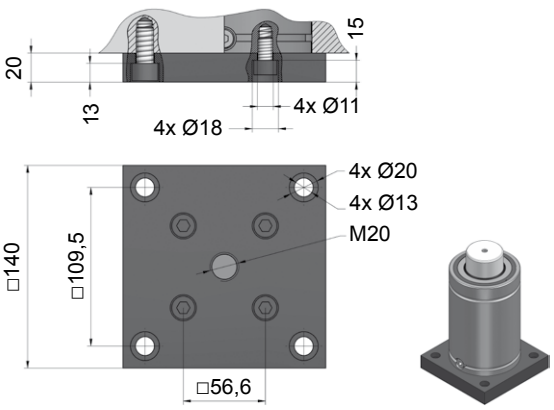

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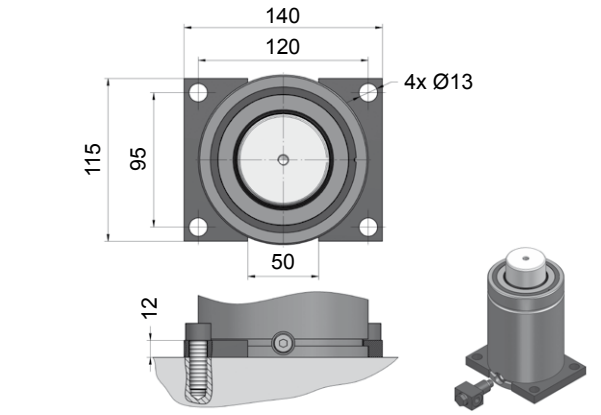

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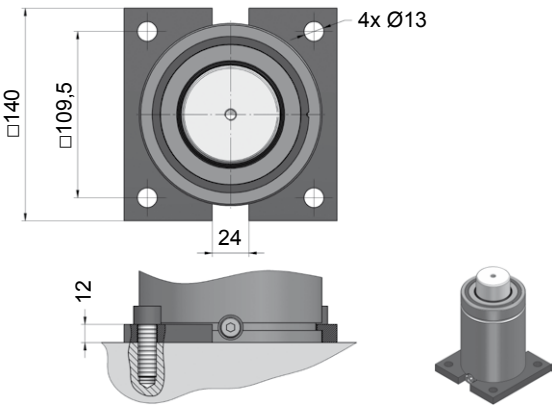

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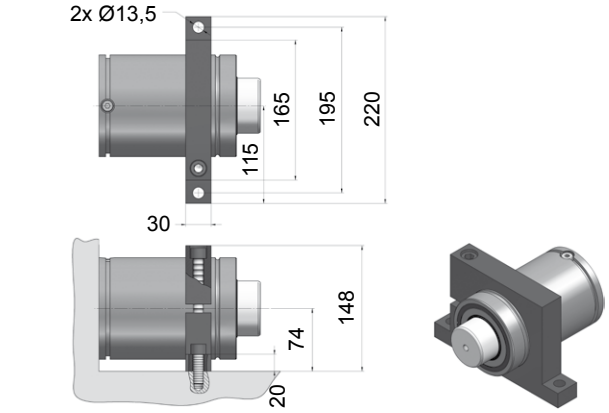
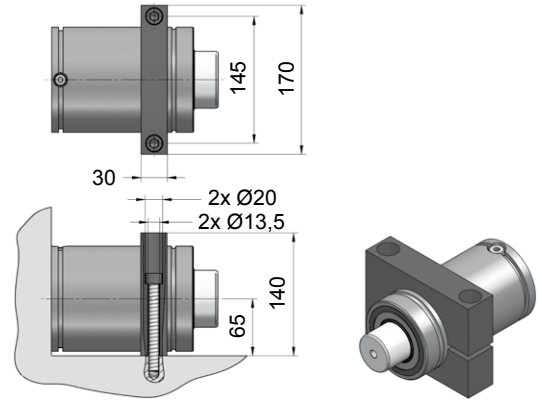


NC.88.00.120.0402



NC.88.00.120.0467

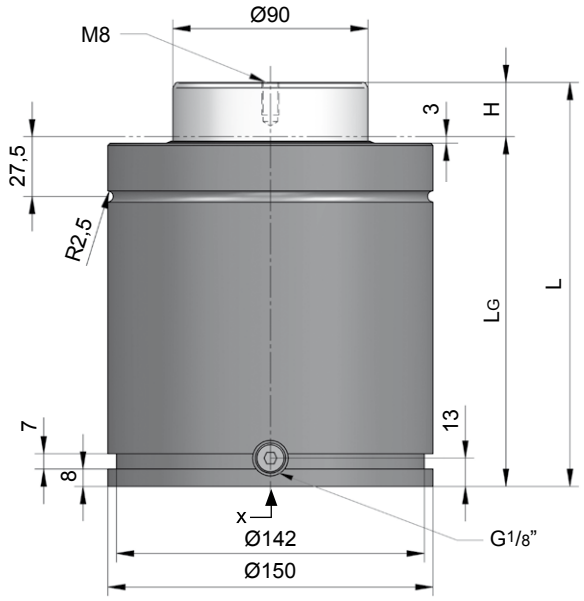
NC.040.00.10000

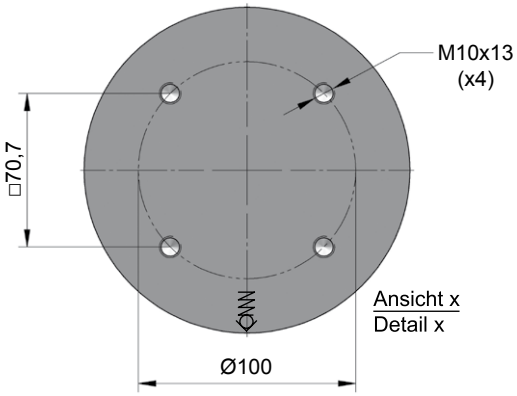
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

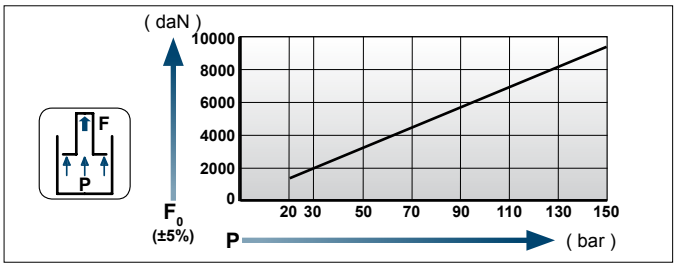
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

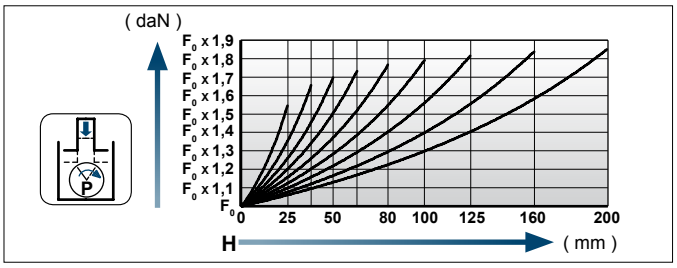


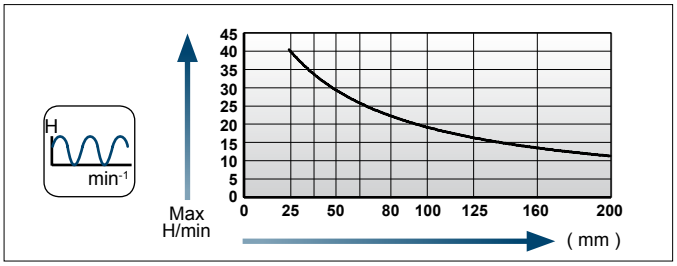


NC.040.00.10000.100

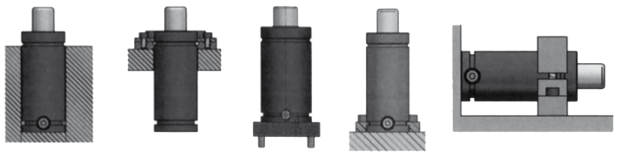
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	186	161	9540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	212	174	9540	
050	236	186	9540	
063	262	199	9540	
080	296	216	9540	
100	336	236	9540	
125	386	261	9540	
160	456	296	9540	
200	536	336	9540	



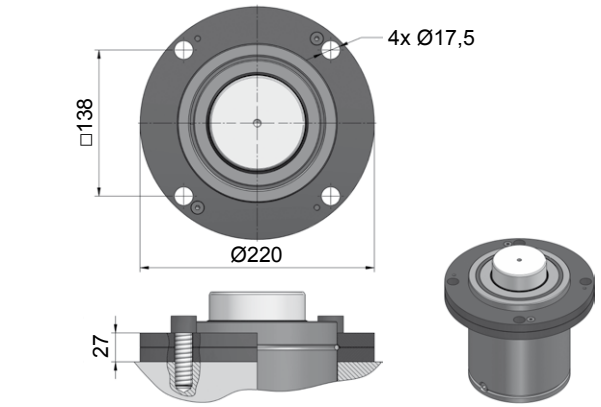




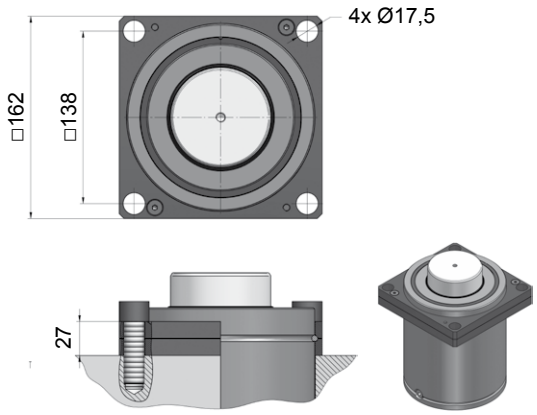
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.040.00.10000**



NC.88.00.150.0114



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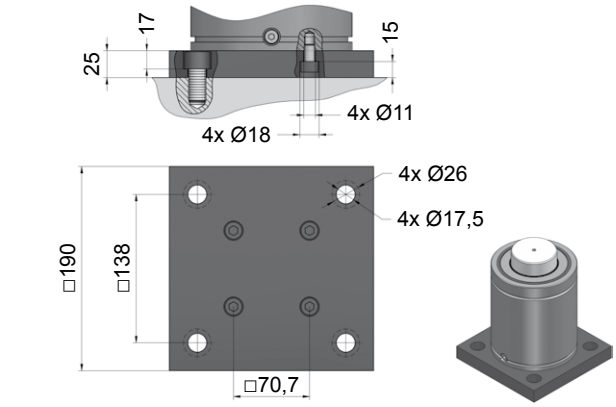

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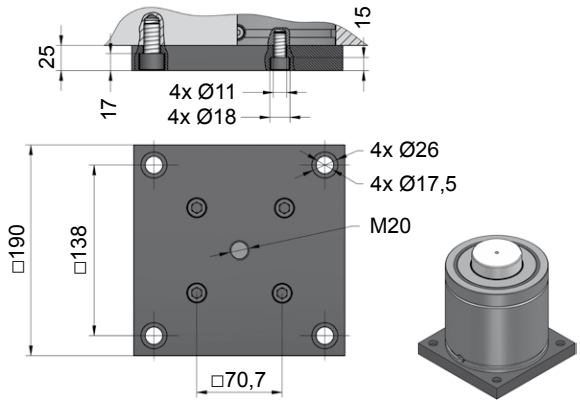

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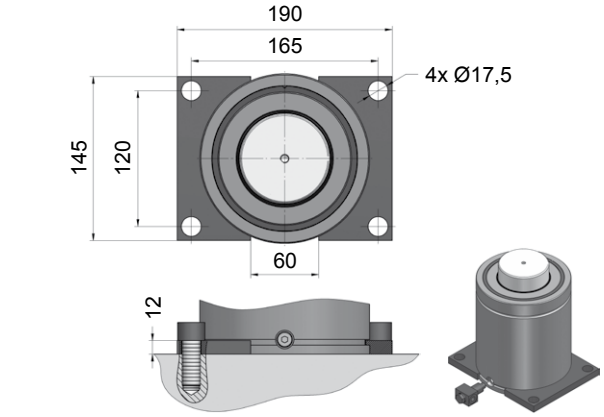

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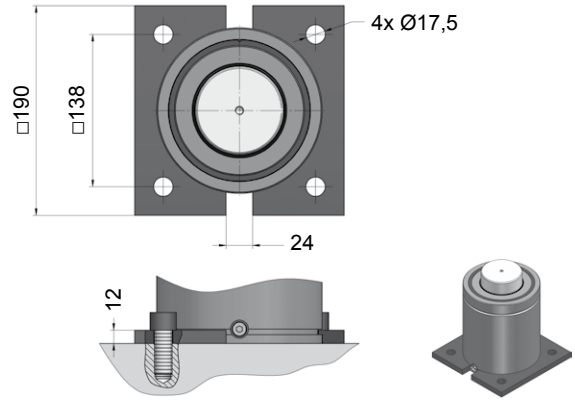
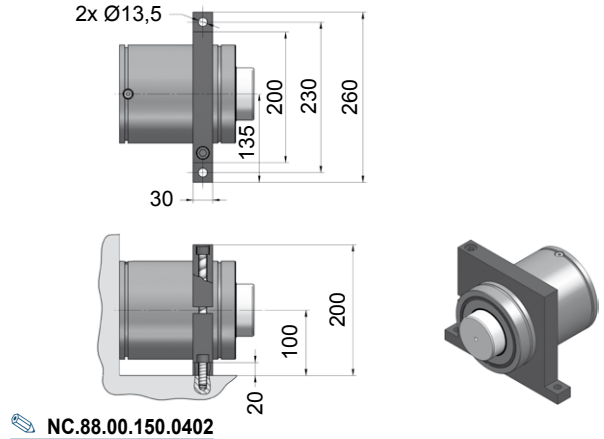
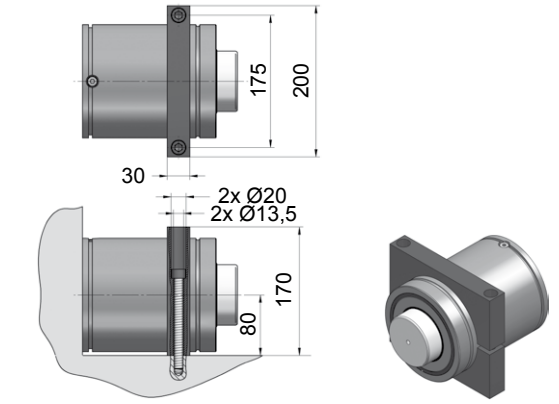


NC.88.00.150.0320



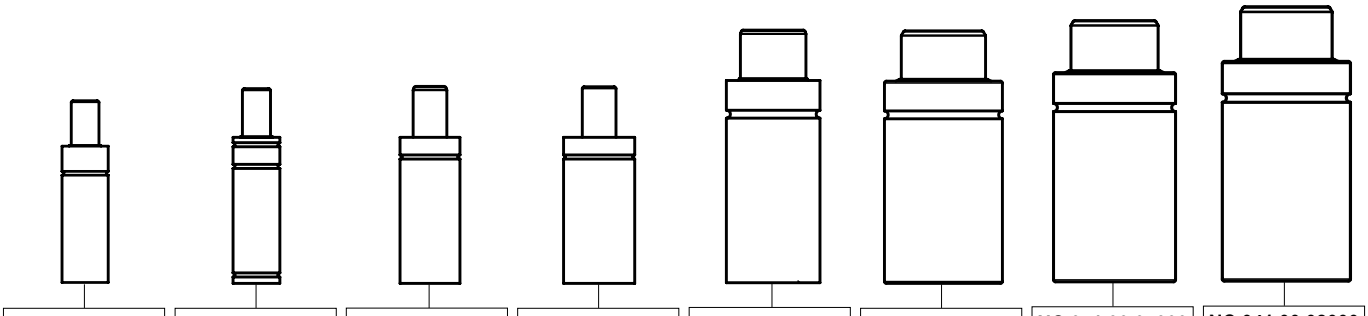
NC.88.00.150.0402



NC.88.00.150.0467

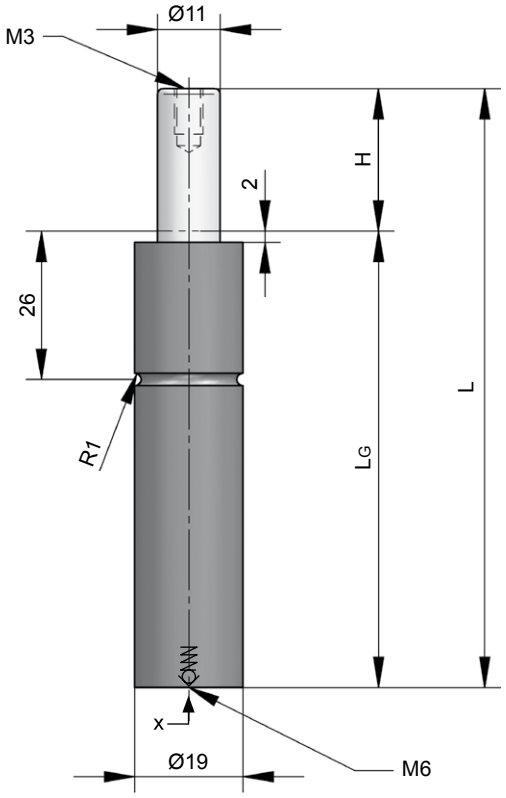
Größenübersicht Serie NC.041.00

Gas spring index NC.041.00 series



NC.041.00.00150	NC.041.00.00300	NC.041.00.00500	NC.041.00.01000	NC.041.00.02000	NC.041.00.03000	NC.041.00.05000	NC.041.00.08000
150 daN	300 daN	485 daN	960 daN	1925 daN	2860 daN	4925 daN	7950 daN
10 - 80 mm	10 - 80 mm	10 - 80 mm	10 - 80 mm	10 - 80 mm	10 - 80 mm	10 - 80 mm	10 - 80 mm
Ø19	Ø25	Ø32	Ø38	Ø50	Ø63	Ø75	Ø95

NC.041.00.00150

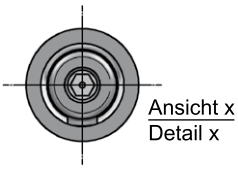


Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

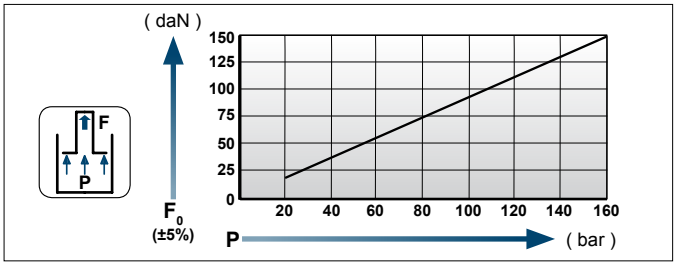
Specifications:

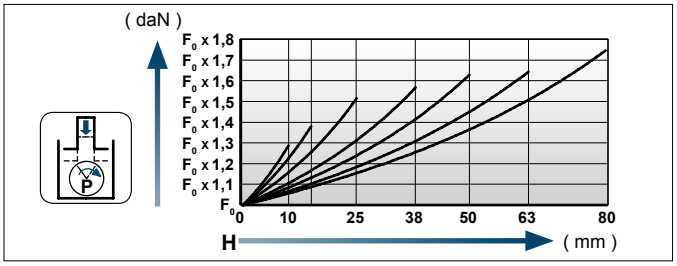
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

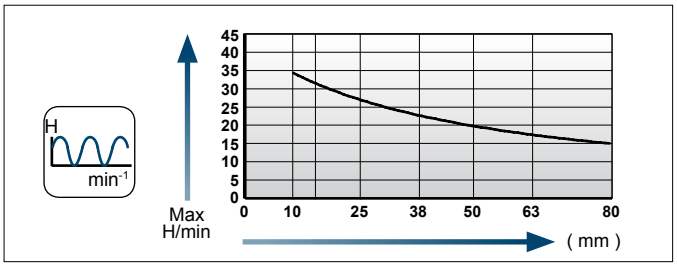


NC.041.00.00150.015

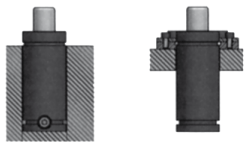
H Hub / Stroke	L ±0,25	LG	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	75	65	150	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	85	70	150	
025	105	80	150	
038	135	97	150	
050	160	110	150	
063	190	127	150	
080	220	140	150	



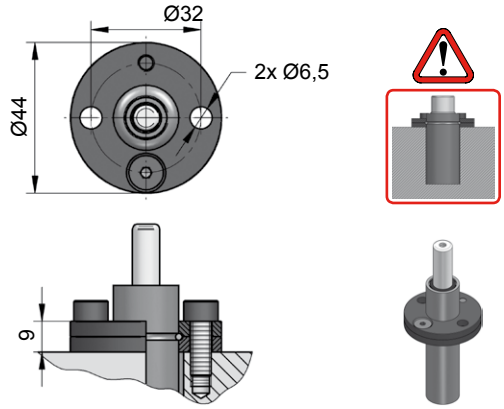




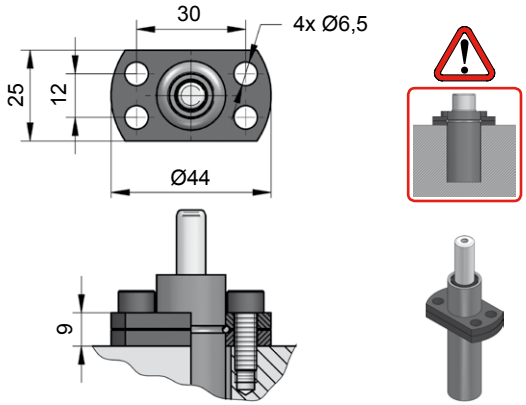
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.041.00.00150**



NC.88.00.019.0114



NC.88.00.019.0144

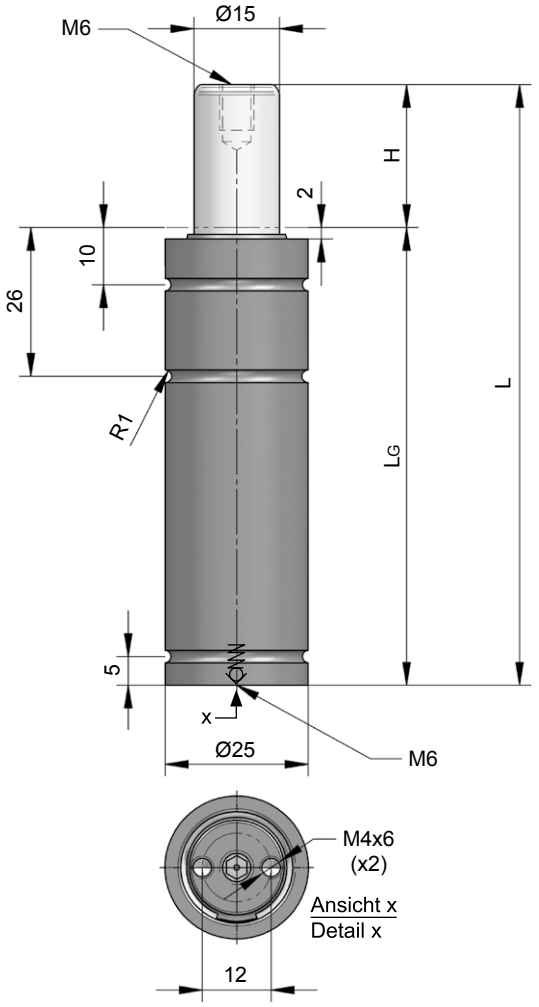
NC.041.00.00300

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	170 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

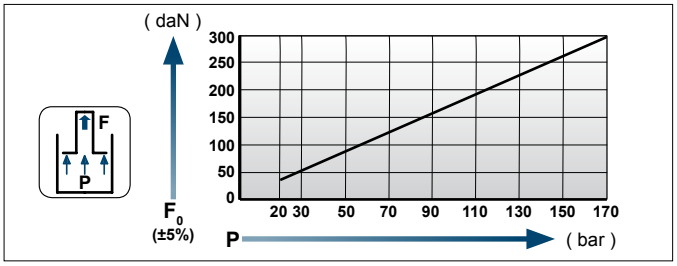
Specifications:

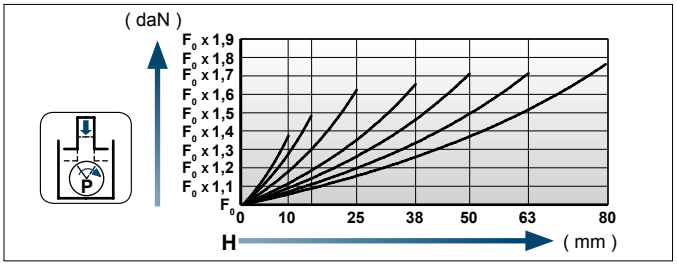
Pressure medium:	N_2
$P_{max.}$ (20 °C):	170 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

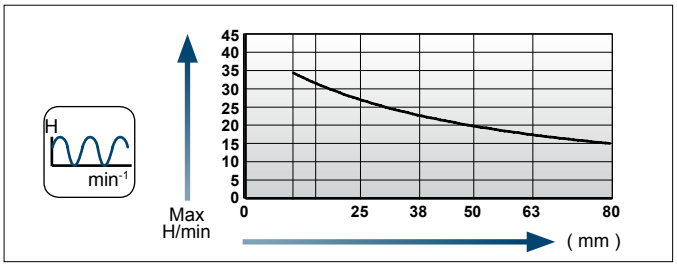


NC.041.00.
00300.015

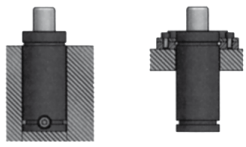
H Hub / Stroke	L ±0,25	LG	Kraft / Force (170 bar) Anfang / Initial [daN]	 Ende / Final [daN]
010	75	65	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	85	70	300	
025	105	80	300	
038	135	97	300	
050	160	110	300	
063	190	127	300	
080	225	145	300	





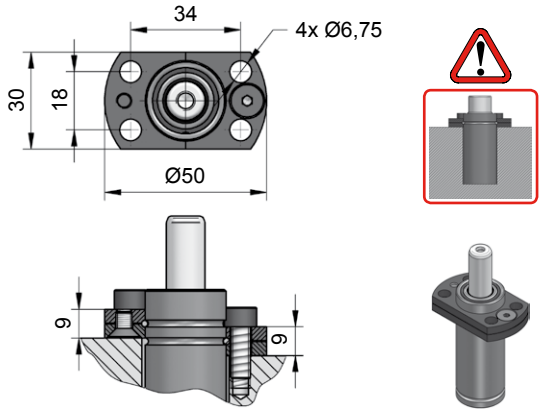


Einbaubeispiele / Flange mounting options

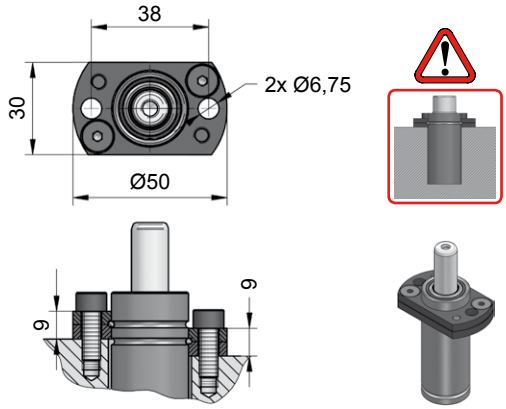


[NC]

Flansche für / Flanges for **NC.041.00.00300**



NC.88.00.025.0144



NC.88.00.025.0149

NC.041.00.00500

Technische Daten:

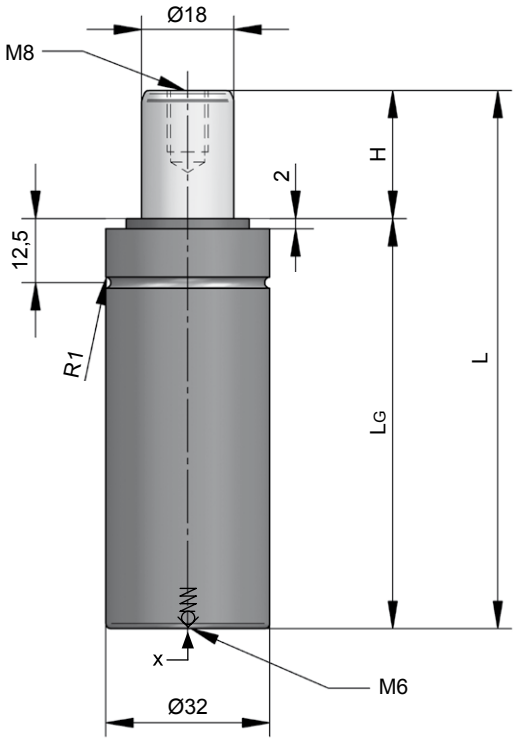
Medium:	N_2
$P_{max.}$ (20 °C):	200 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

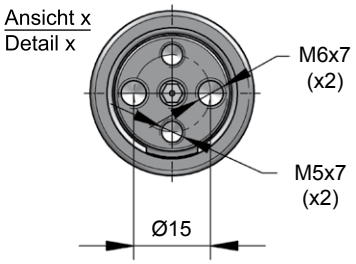
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	200 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

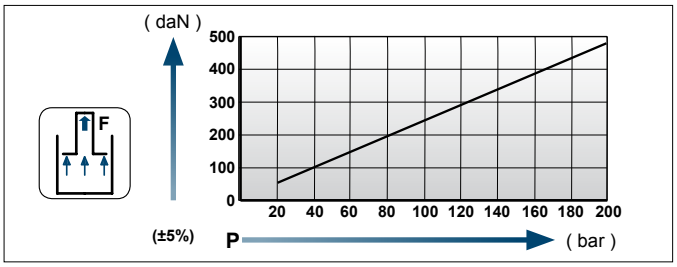
Attention: Maintenance only at manufacturer's site!

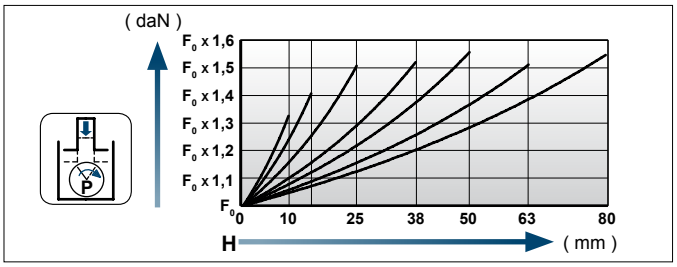


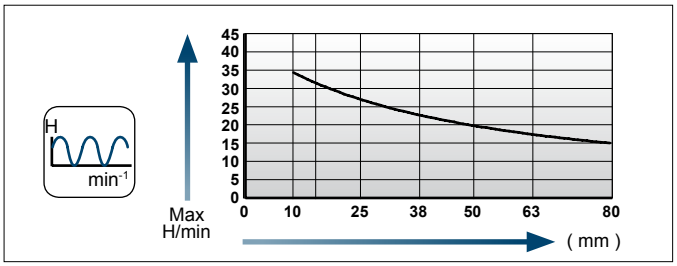


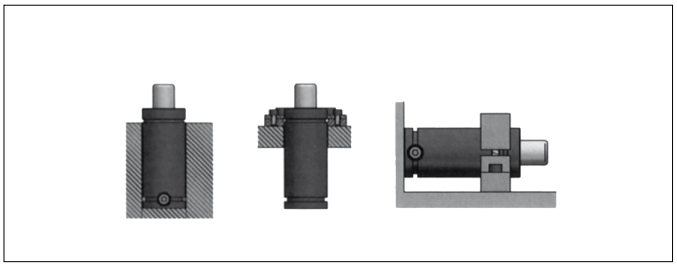
NC.041.00.00500.025

H Hub / Stroke	L ±0,25	LG	Kraft / Force (190 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	75	65	485	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	85	70	485	
025	105	80	485	
038	135	97	485	
050	160	110	485	
063	195	132	485	
080	230	150	485	

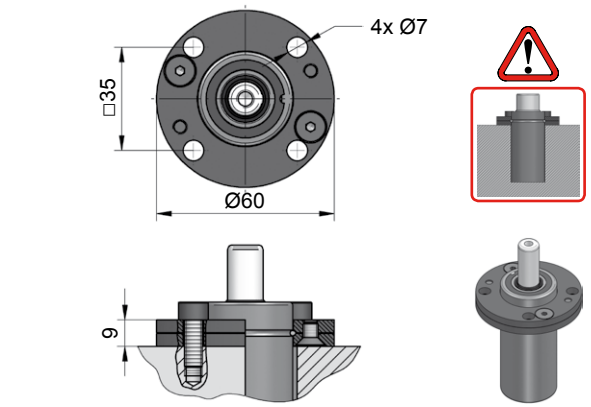




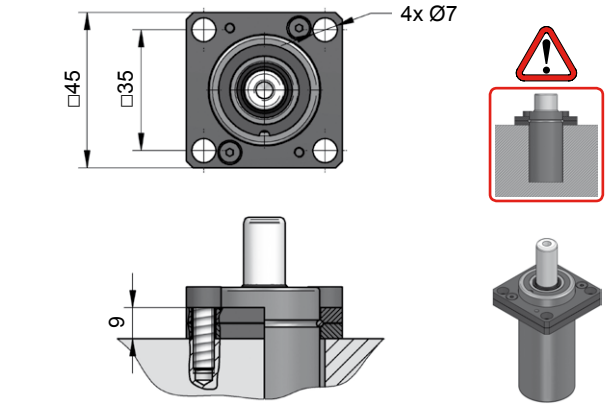




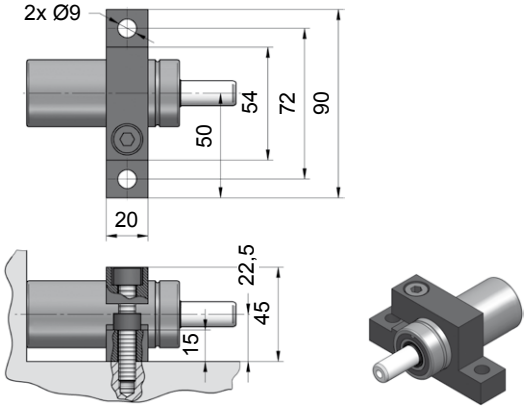
Flansche für / Flanges for **NC.041.00.00500**



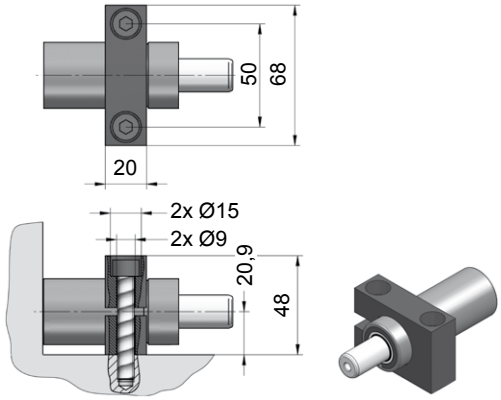
NC.88.00.032.0114



NC.88.00.032.0134

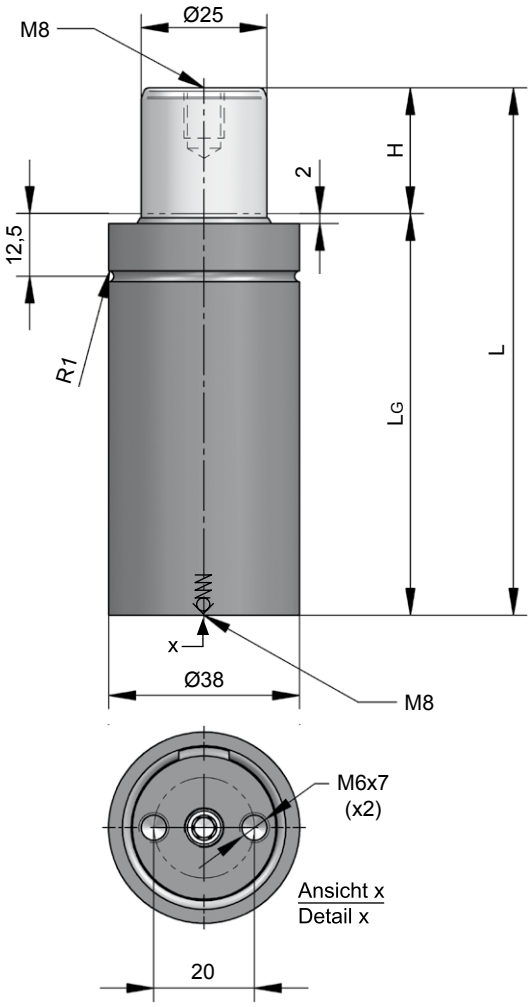


NC.88.00.032.0402



NC.88.00.032.0467

NC.041.00.01000



Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	205 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

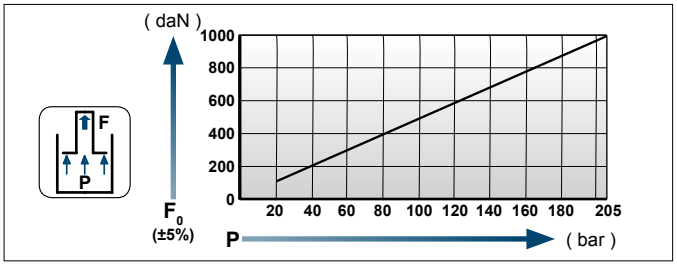
Specifications:

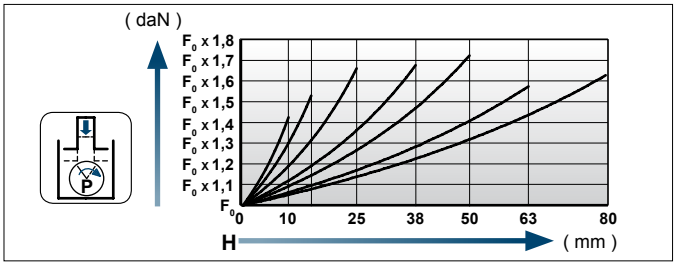
Pressure medium:	N_2
$P_{max.}$ (20 °C):	205 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

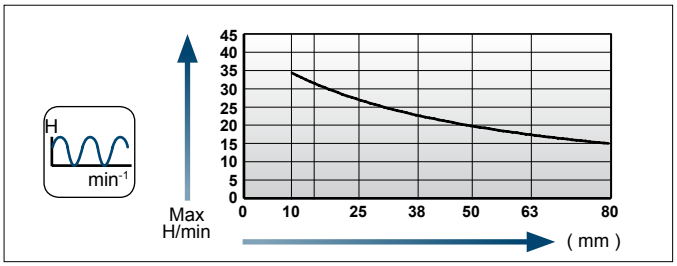
Attention: Maintenance only at manufacturer's site!

NC.041.00.01000.038

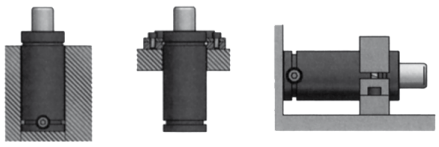
H Hub / Stroke	L ±0,25	LG	Kraft / Force (195 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	75	65	960	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	85	70	960	
025	105	80	960	
038	135	97	960	
050	160	110	960	
063	205	142	960	
080	240	160	960	



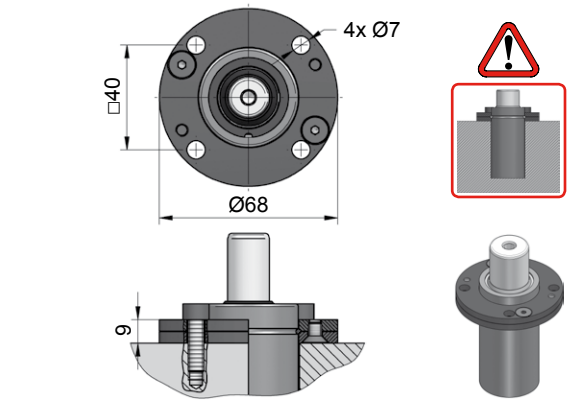




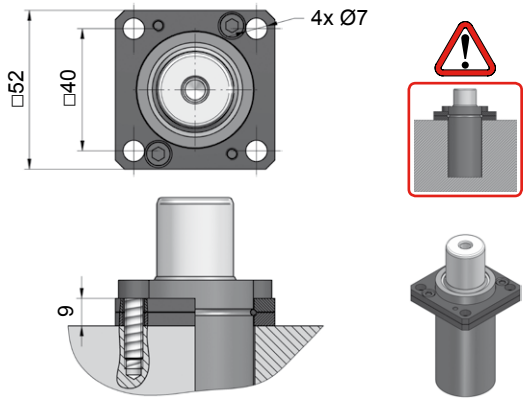
Einbaubeispiele / Flange mounting options



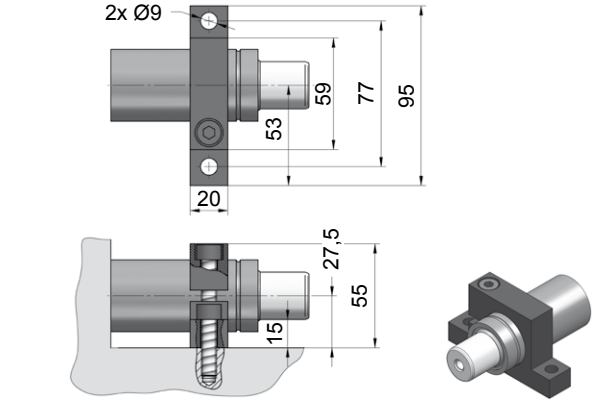
Flansche für / Flanges for **NC.041.00.01000**



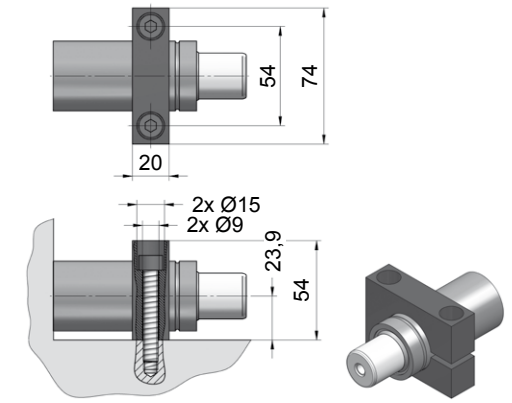
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0402



NC.88.00.038.0467

NC.041.00.02000

Technische Daten:

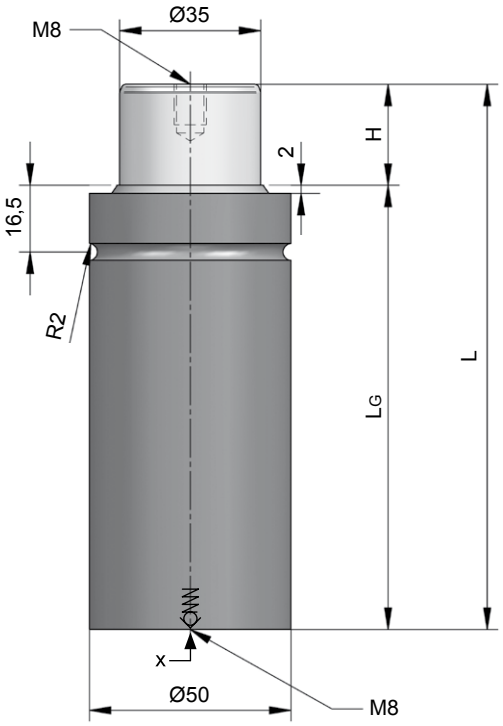
Medium:	N_2
$P_{max.}$ (20 °C):	210 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

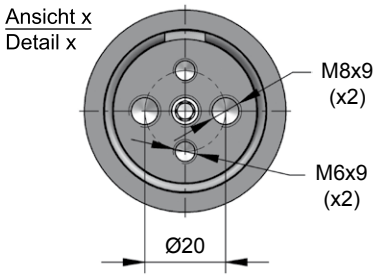
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	210 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

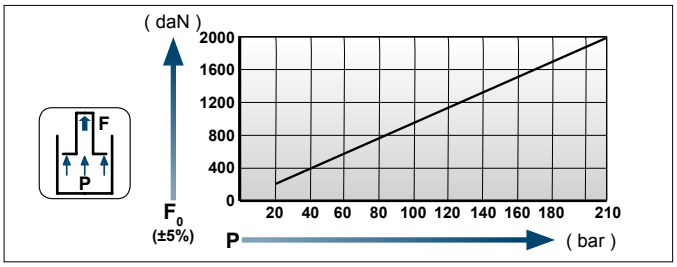
Attention: Maintenance only at manufacturer's site!

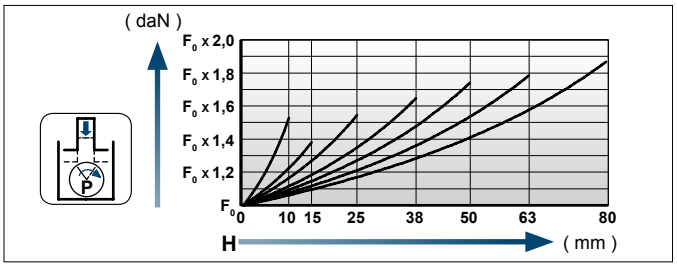


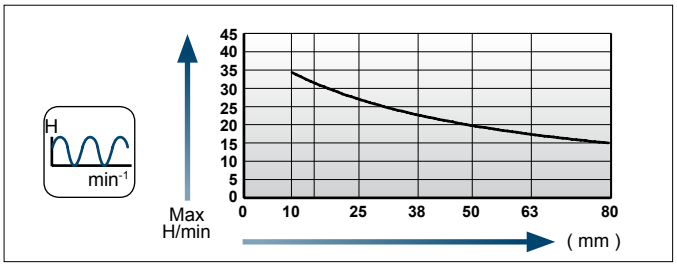


NC.041.00.02000.050

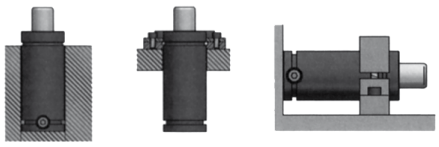
H Hub / Stroke	L ±0,25	LG	Kraft / Force (200 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	90	80	1925	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	115	100	1925	
025	135	110	1925	
038	165	127	1925	
050	190	140	1925	
063	220	157	1925	
080	255	175	1925	





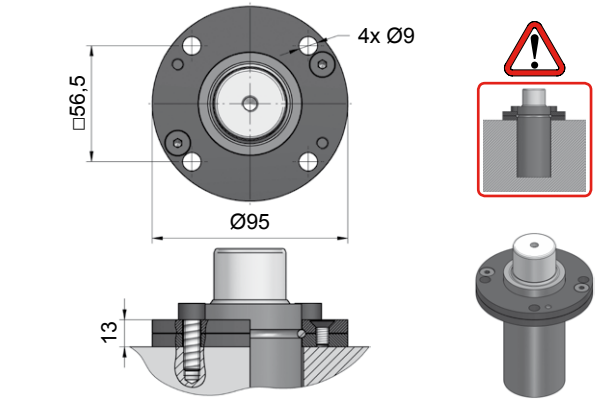


Einbaubeispiele / Flange mounting options

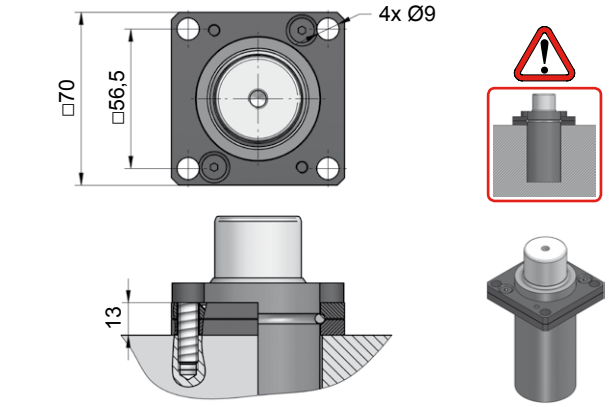


[NC]

Flansche für / Flanges for **NC.041.00.02000**



NC.88.00.050.0114



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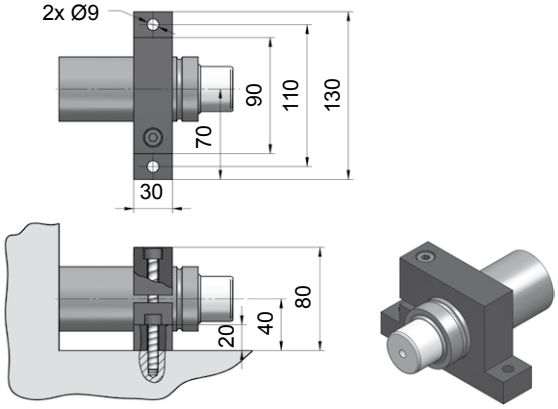
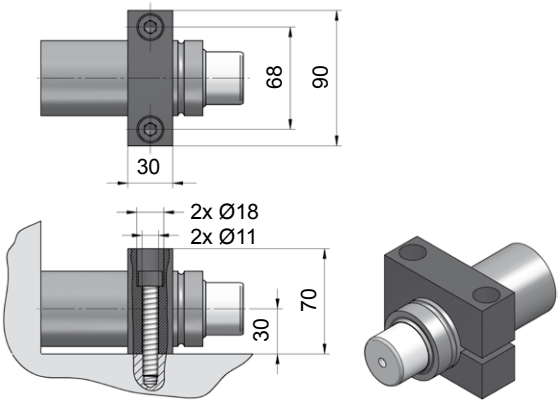


NC.88.00.050.0402



NC.88.00.050.0467

NC.041.00.03000

Technische Daten:

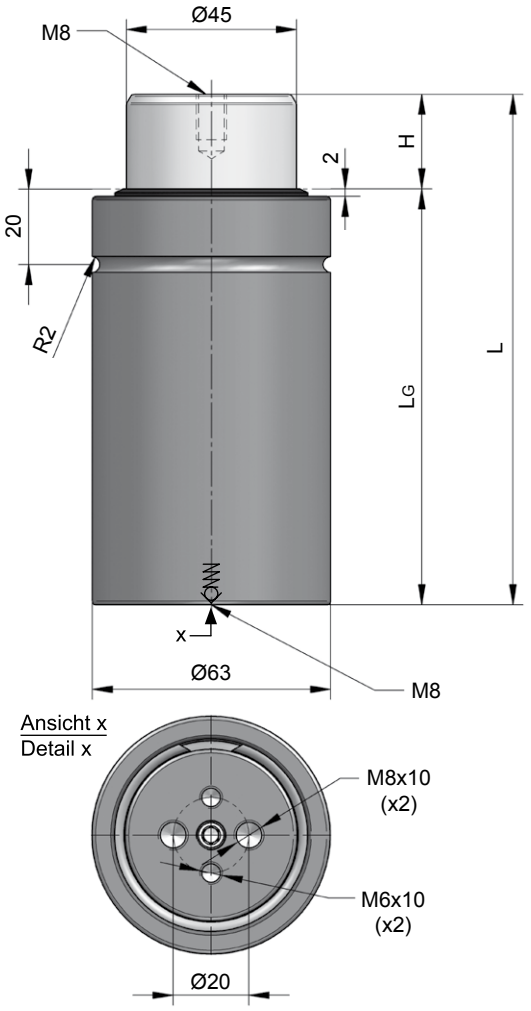
Medium:	N_2
$P_{max.}$ (20 °C):	190 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

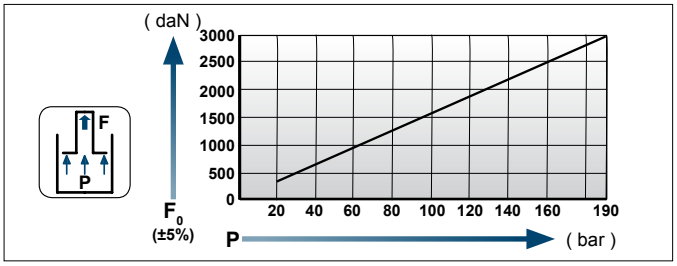
Pressure medium:	N_2
$P_{max.}$ (20 °C):	190 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

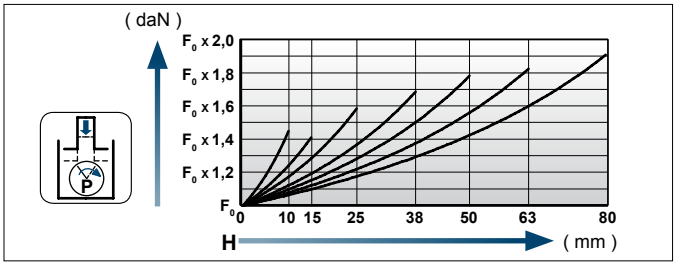
Attention: Maintenance only at manufacturer's site!

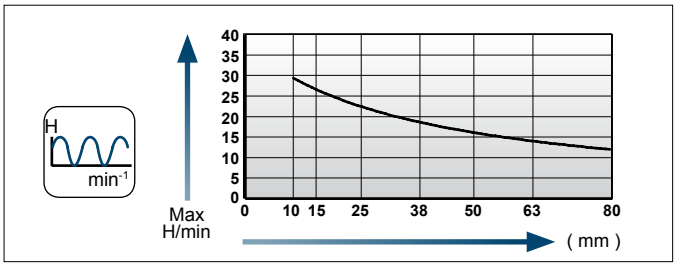


NC.041.00.03000.063

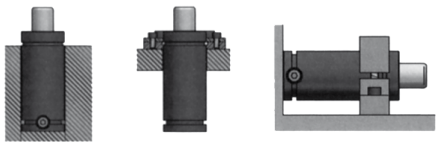
H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	95	85	2860	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	115	100	2860	
025	135	110	2860	
038	165	127	2860	
050	190	140	2860	
063	220	157	2860	
080	255	175	2860	



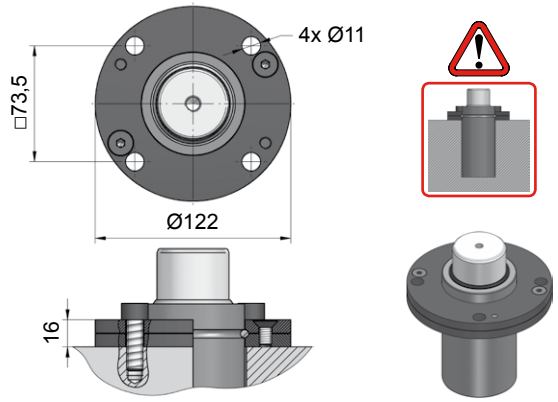




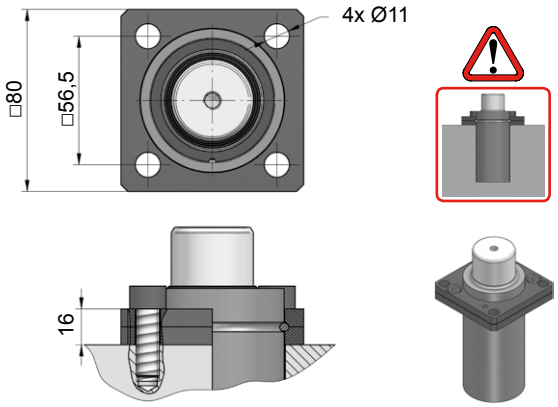
Einbaubeispiele / Flange mounting options



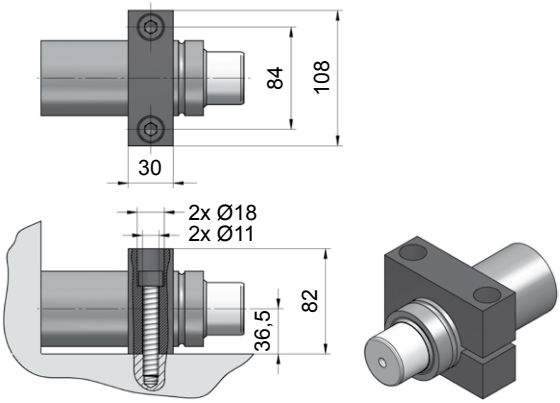
Flansche für / Flanges for **NC.041.00.03000**



NC.88.00.063.0114



NC.88.00.063.0134



NC.88.00.063.0467

NC.041.00.05000

Technische Daten:

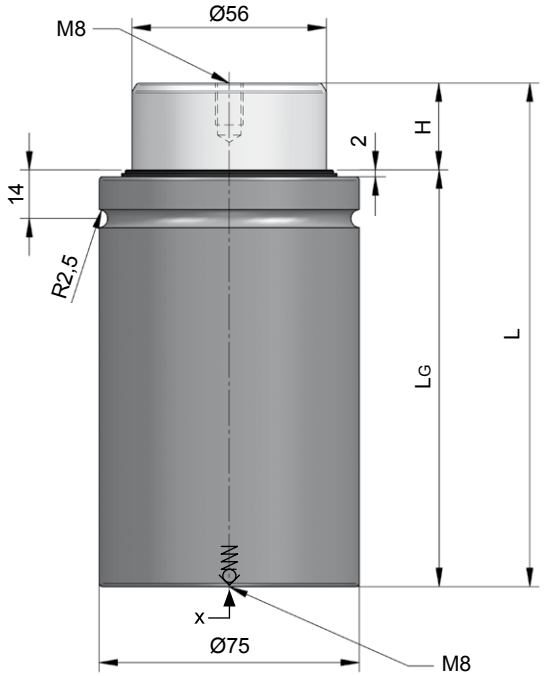
Medium:	N_2
$P_{max.}$ (20 °C):	200 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

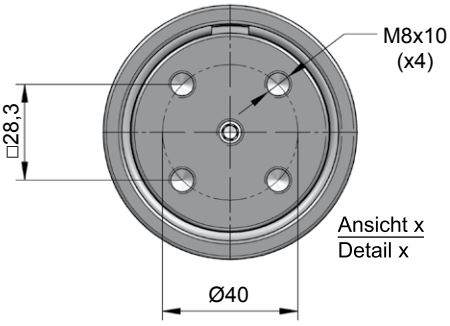
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	200 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

Attention: Maintenance only at manufacturer's site!





Ansicht x
Detail x

NC.041.00.05000.080

H Hub / Stroke	L ±0,25	LG	Kraft / Force (200 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	100	90	4925	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	125	110	4925	
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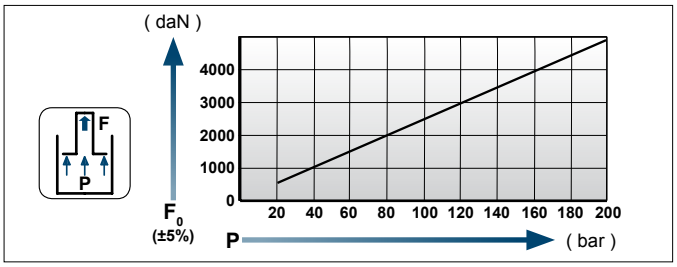
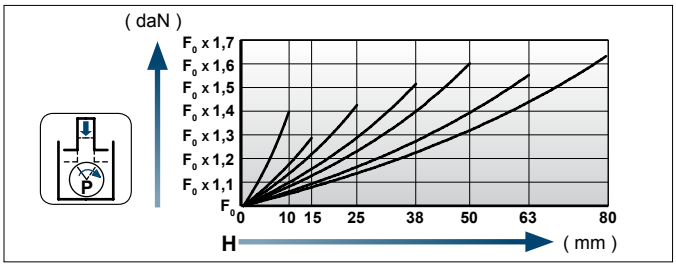
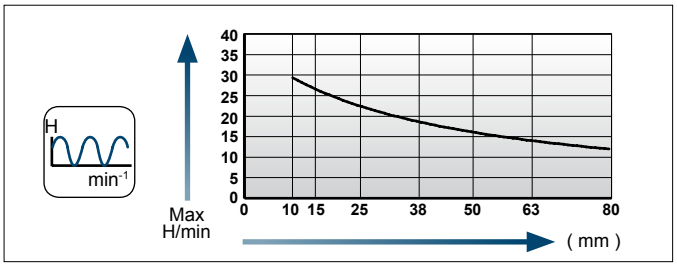
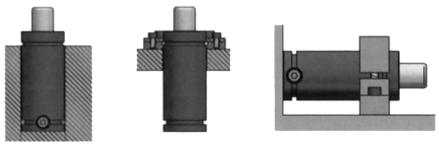
038	175	137	4925	
050	200	150	4925	
063	240	177	4925	
080	275	175	4925	



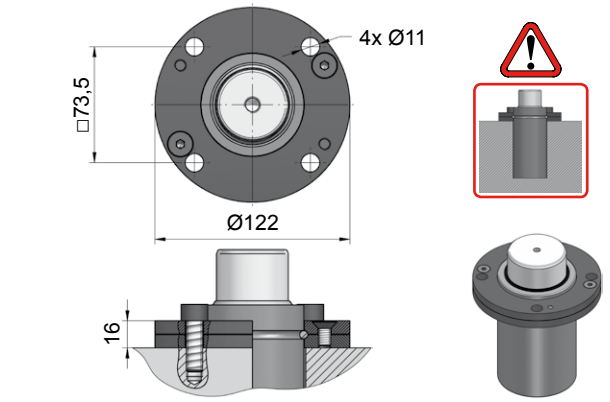




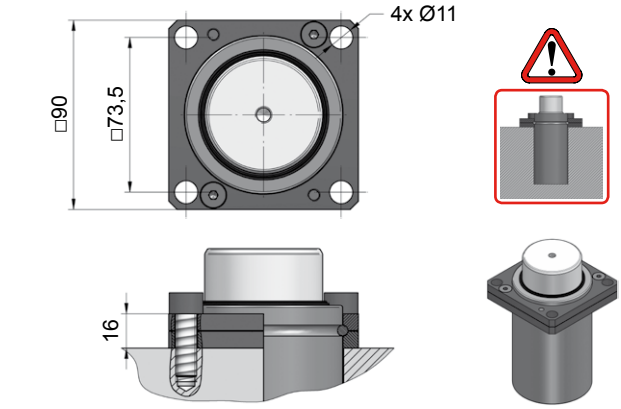
Einbaubeispiele / Flange mounting options



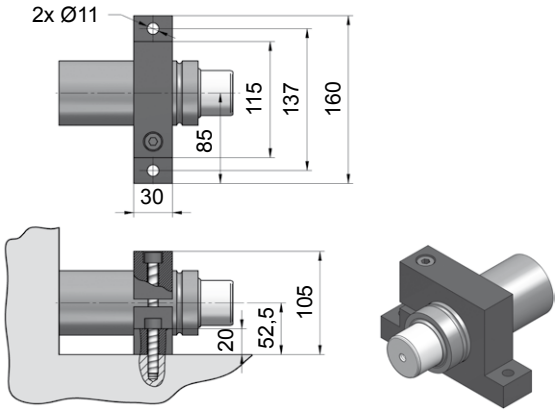
Flansche für / Flanges for **NC.041.00.05000**



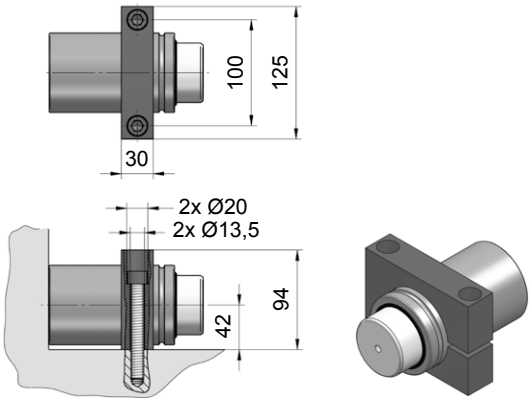
NC.88.00.075.0114



NC.88.00.075.0134



NC.88.00.075.0402



NC.88.00.075.0467

NC.041.00.08000

Technische Daten:

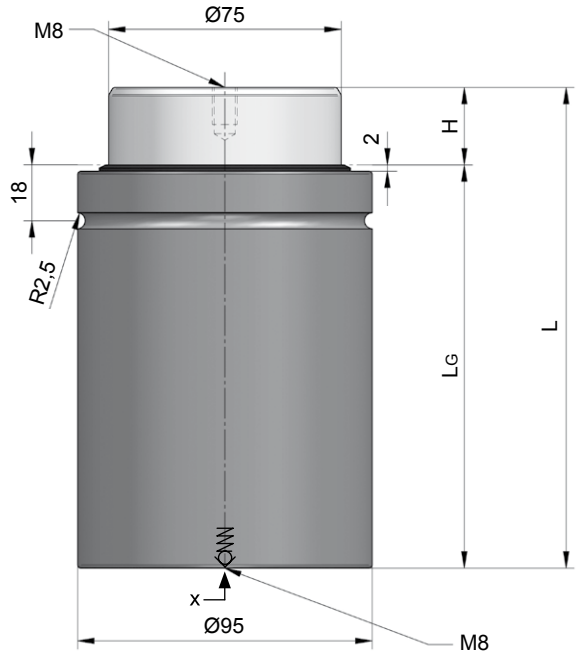
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

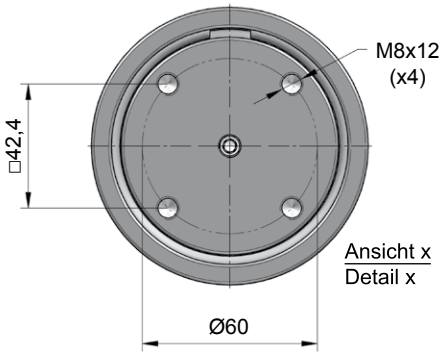
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

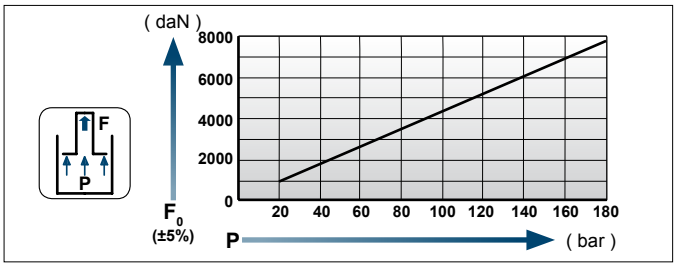
Attention: Maintenance only at manufacturer's site!

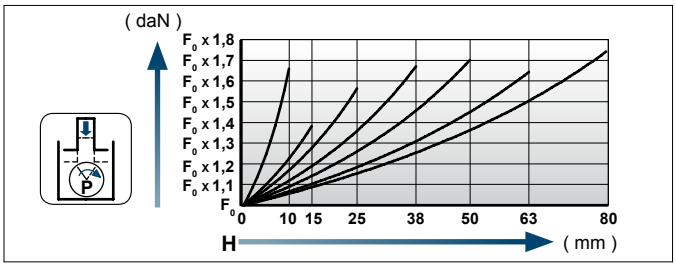


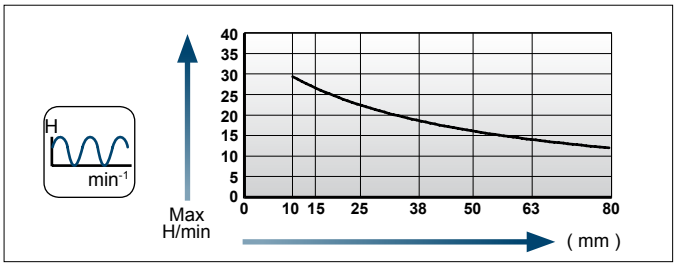


NC.041.00.08000.010

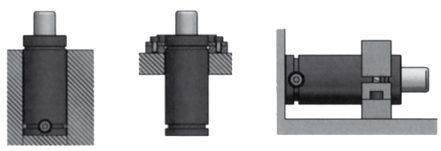
H Hub / Stroke	L ±0,25	LG	Kraft / Force (180 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	110	100	7950	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	135	120	7950	
025	155	130	7950	
038	185	147	7950	
050	215	165	7950	
063	255	192	7950	
080	290	210	7950	





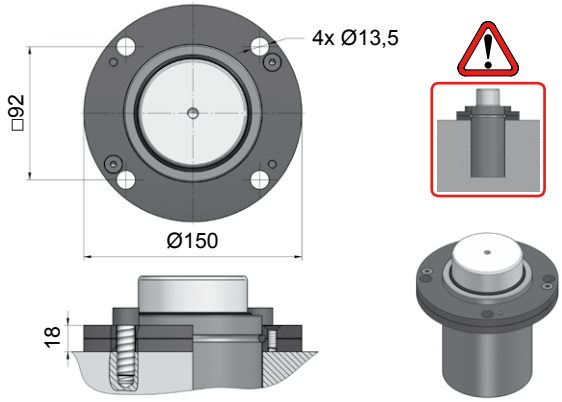


Einbaubeispiele / Flange mounting options

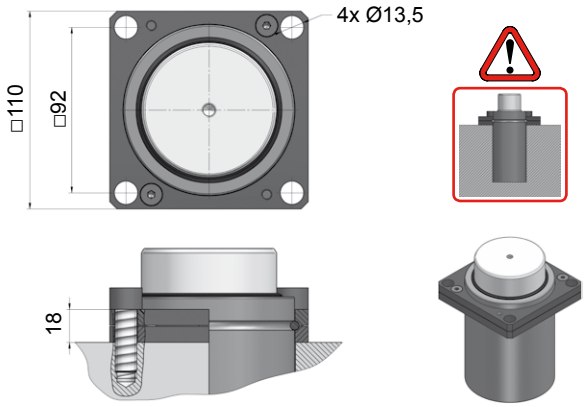


[NC]

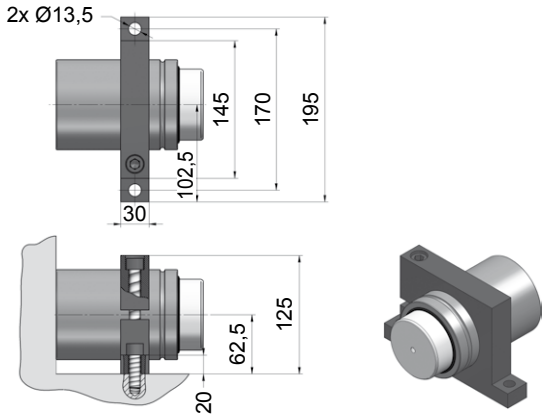
Flansche für / Flanges for **NC.041.00.08000**



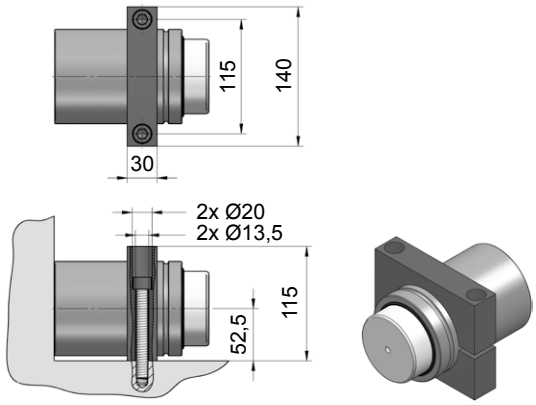
NC.88.00.095.0114



NC.88.00.095.0134



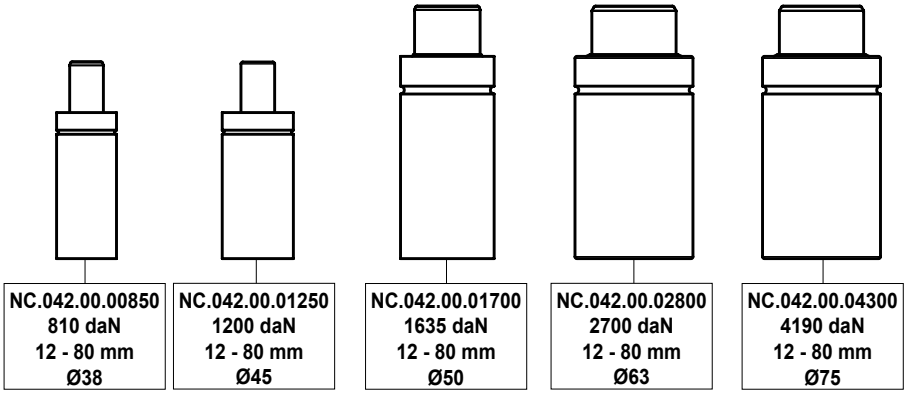
NC.88.00.095.0402



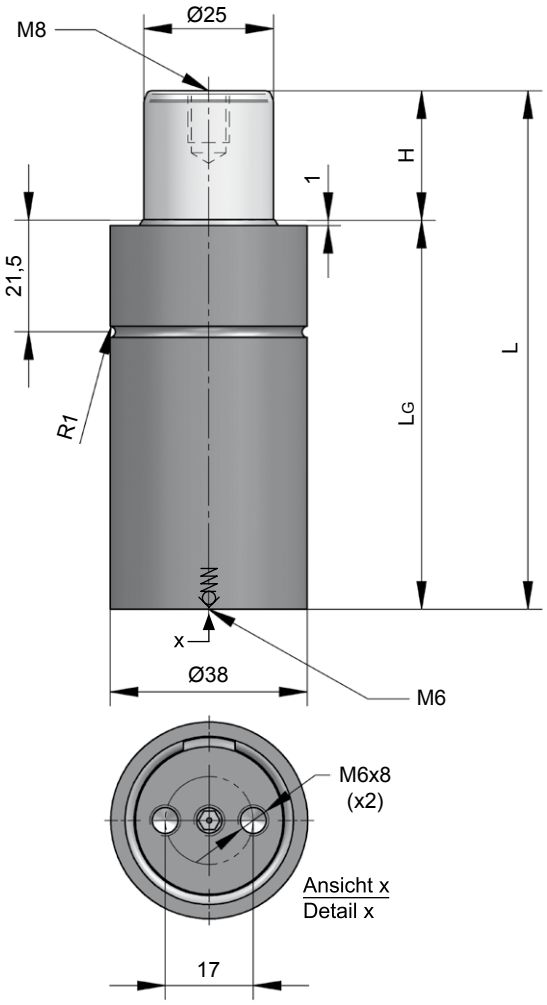
NC.88.00.095.0467

Größenübersicht Serie NC.042.00

Gas spring index NC.042.00 series



NC.042.00.00850



Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Achtung: Wartungsarbeiten nur durch den Hersteller!

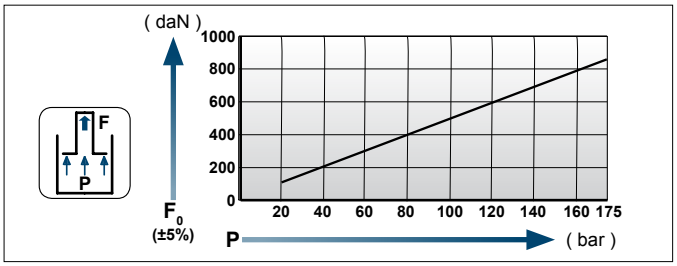
Specifications:

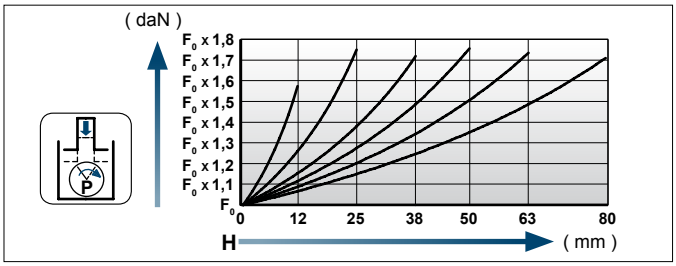
Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

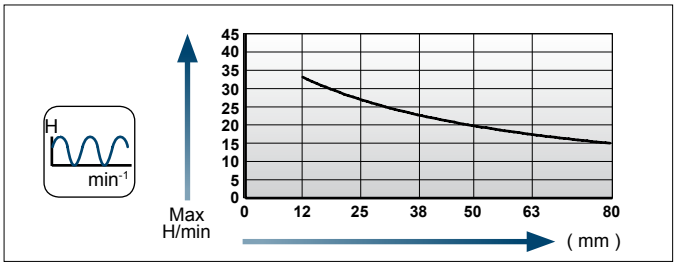
Attention: Maintenance only at manufacturer's site!

NC.042.00.00850.038

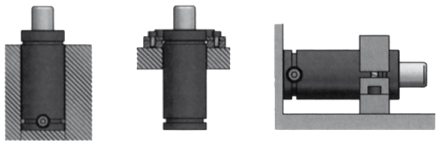
H Hub / Stroke	L ±0,25	LG	Kraft / Force (165 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	74	62	810	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	100	75	810	
038	130	92	810	
050	155	105	810	
063	185	122	810	
080	225	145	810	



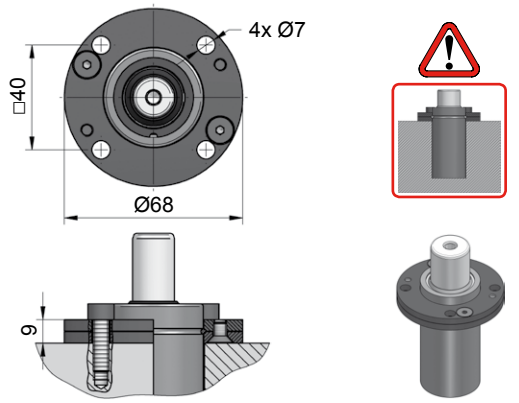




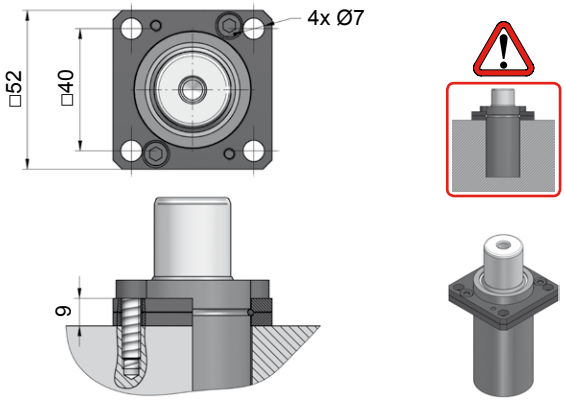
Einbaubeispiele / Flange mounting options



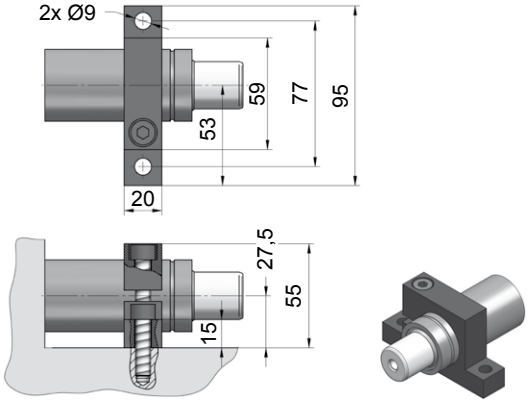
Flansche für / Flanges for **NC.042.00.00850**



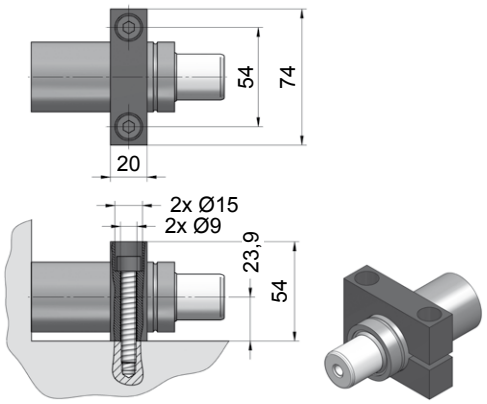
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0402



NC.88.00.038.0467

NC.042.00.01250

Technische Daten:

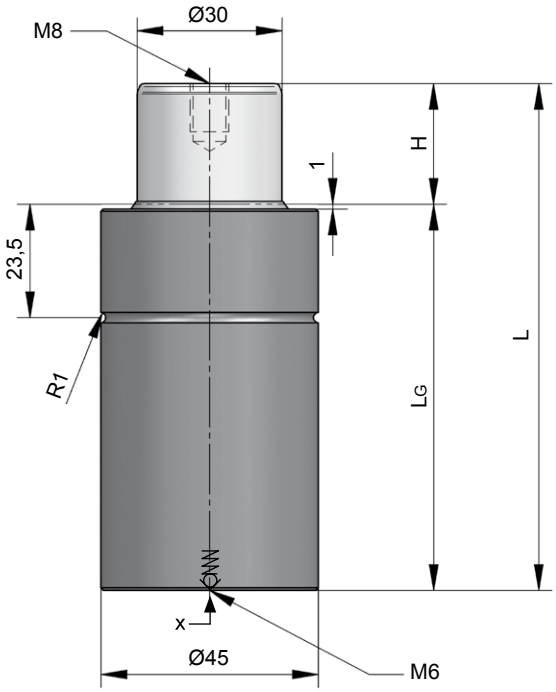
Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

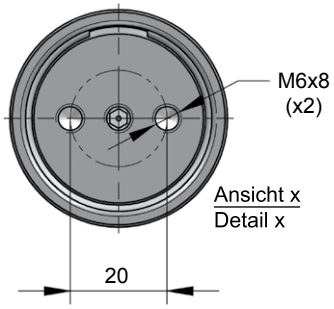
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

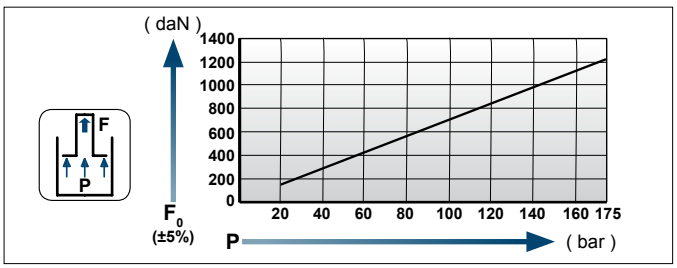
Attention: Maintenance only at manufacturer's site!

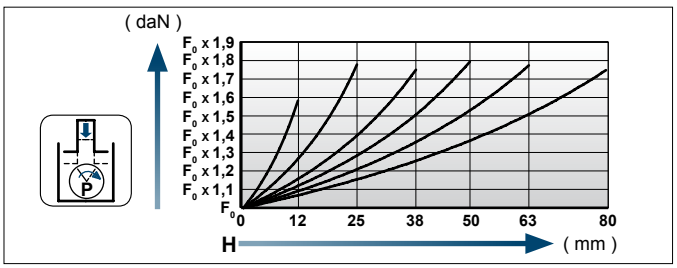


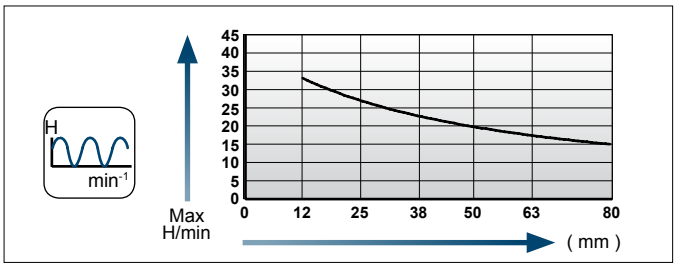


NC.042.00.01250.050

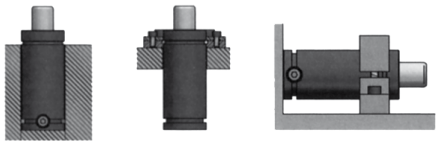
H Hub / Stroke	L ±0,25	LG	Kraft / Force (170 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	79	67	1200	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	105	80	1200	
038	135	97	1200	
050	160	110	1200	
063	190	127	1200	
080	230	150	1200	



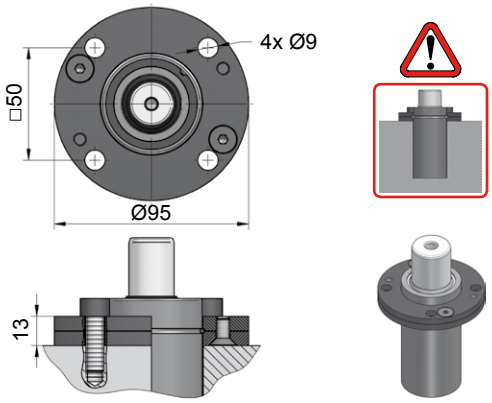




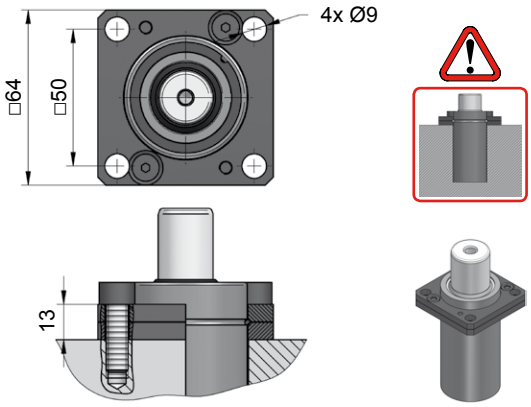
Einbaubeispiele / Flange mounting options



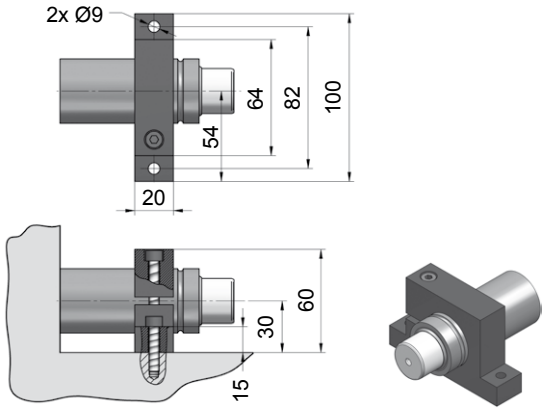
Flansche für / Flanges for **NC.042.00.01250**



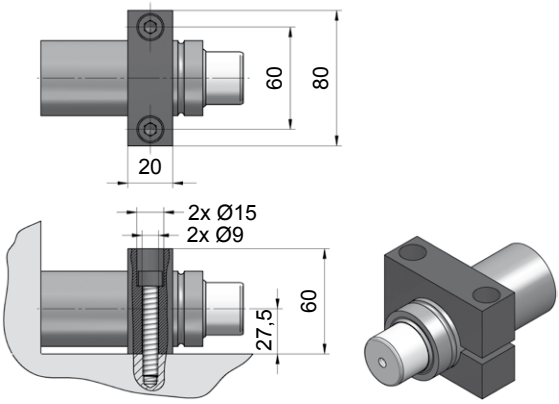
NC.88.00.045.0114



NC.88.00.045.0134



NC.88.00.045.0402



NC.88.00.045.0467

NC.042.00.01700

Technische Daten:

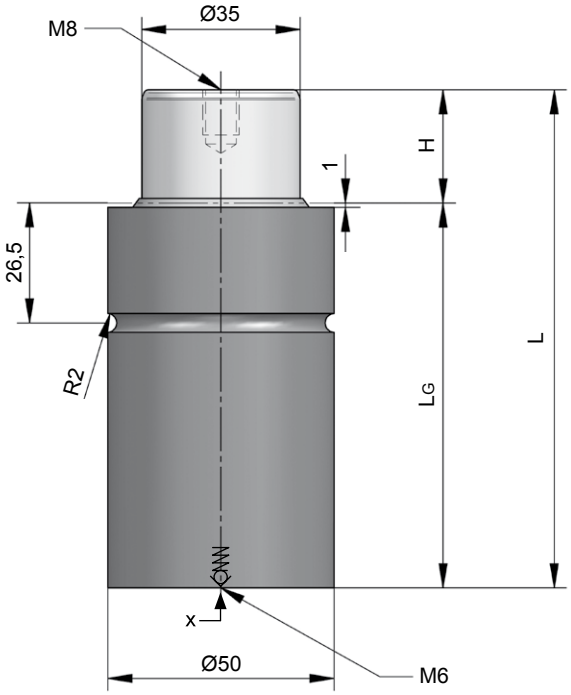
Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

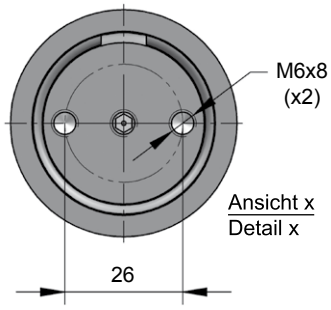
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

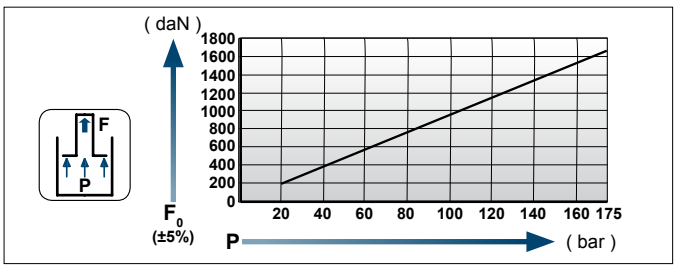
Attention: Maintenance only at manufacturer's site!

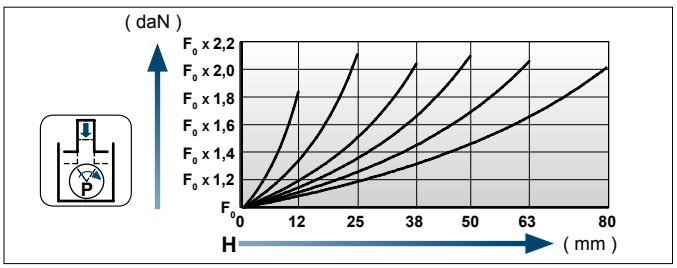


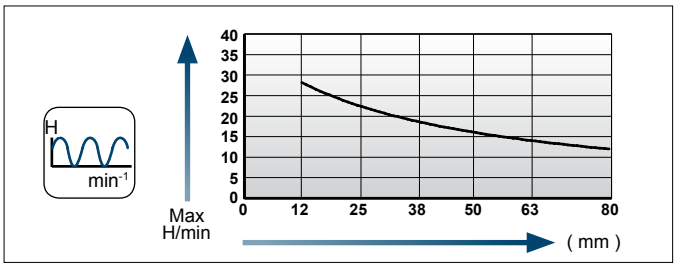


NC.042.00.01700.063

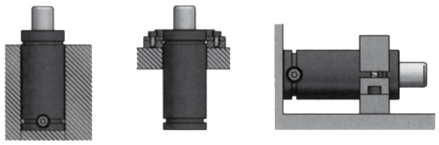
H Hub / Stroke	L ±0,25	LG	Kraft / Force (170 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	84	72	1635	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	110	85	1635	
038	140	102	1635	
050	165	115	1635	
063	195	132	1635	
080	235	155	1635	





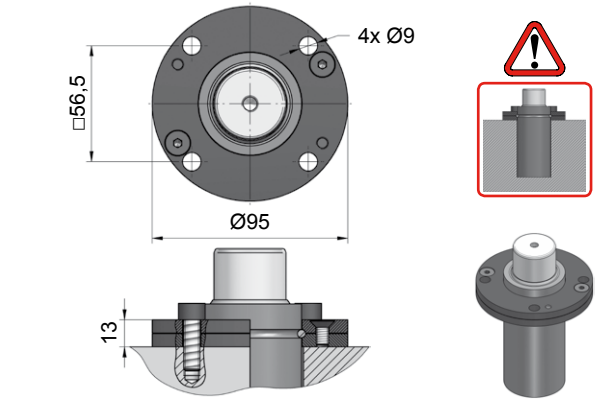


Einbaubeispiele / Flange mounting options

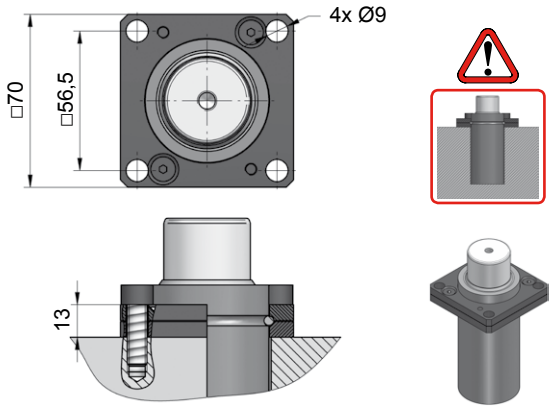


[NC]

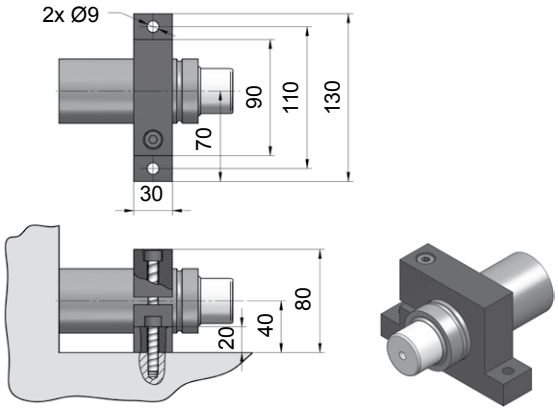
Flansche für / Flanges for **NC.042.00.01700**



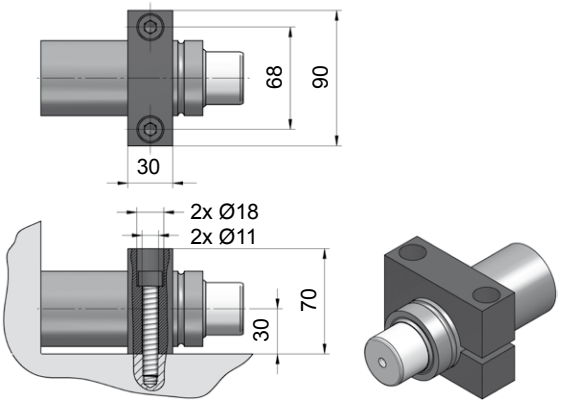
NC.88.00.050.0114



NC.88.00.050.0134



NC.88.00.050.0402



NC.88.00.050.0467

NC.042.00.02800

Technische Daten:

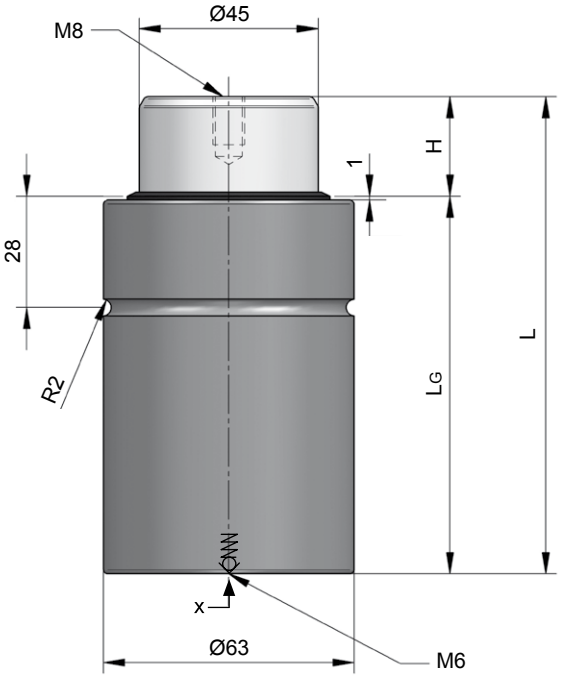
Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

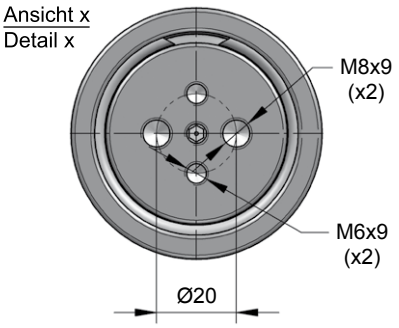
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

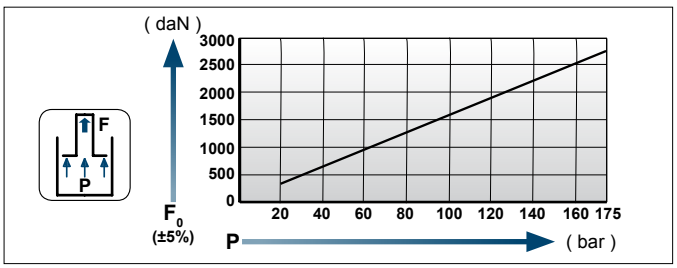
Attention: Maintenance only at manufacturer's site!

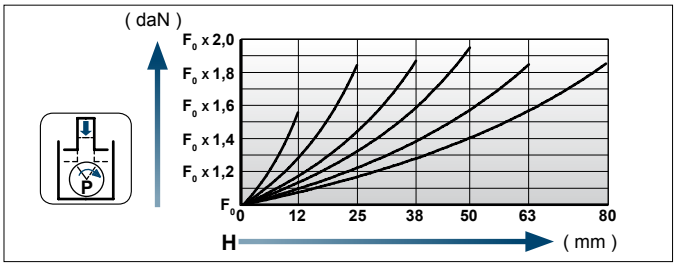


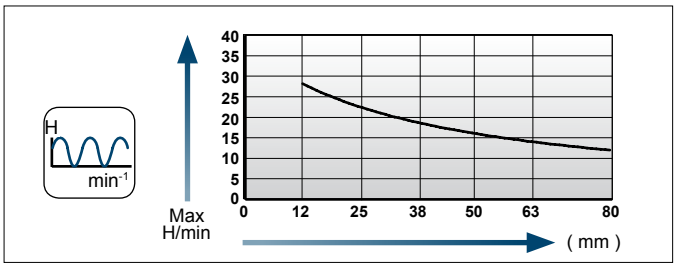


NC.042.00.02800.063

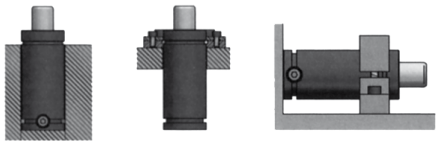
H Hub / Stroke	L ±0,25	LG	Kraft / Force (170 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	94	82	2700	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	120	95	2700	
038	150	112	2700	
050	175	125	2700	
063	210	147	2700	
080	250	170	2700	





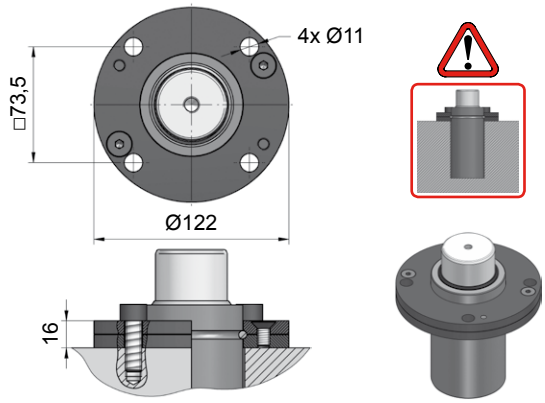


Einbaubeispiele / Flange mounting options

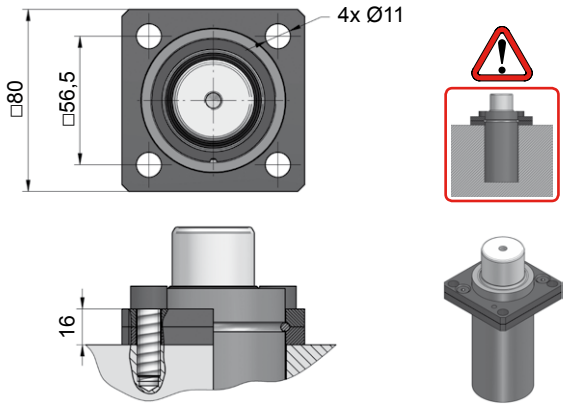


[NC]

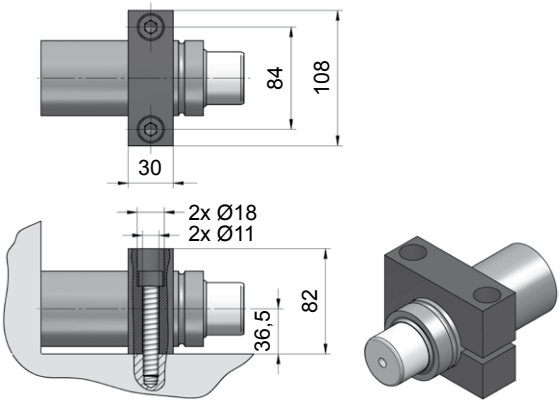
Flansche für / Flanges for **NC.042.00.02800**



NC.88.00.063.0114



NC.88.00.063.0134



NC.88.00.063.0467

NC.042.00.04300

Technische Daten:

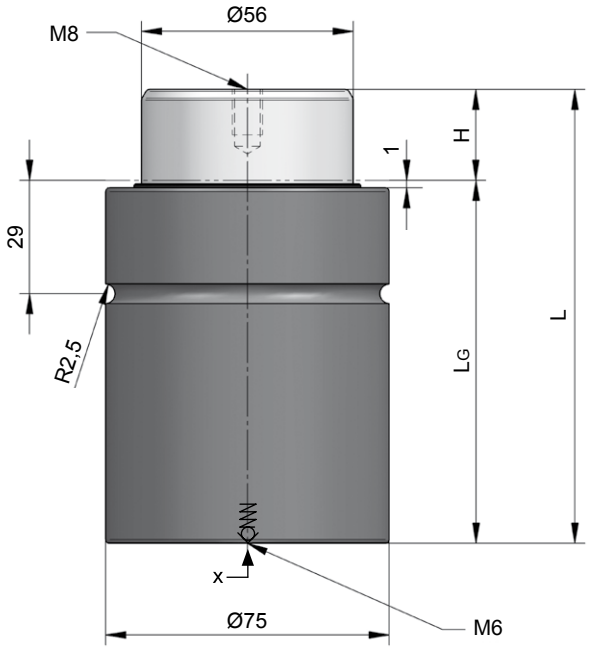
Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

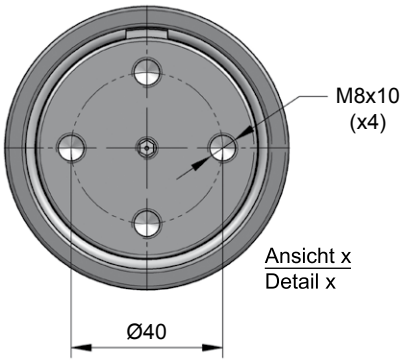
Achtung: Wartungsarbeiten nur durch den Hersteller!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

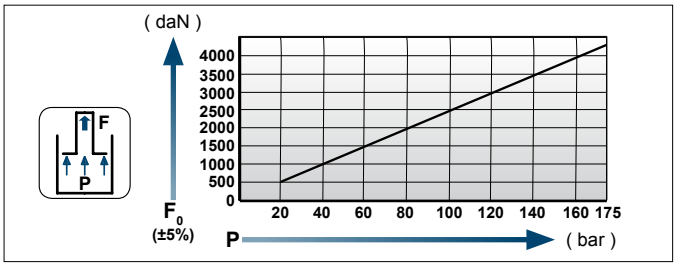
Attention: Maintenance only at manufacturer's site!

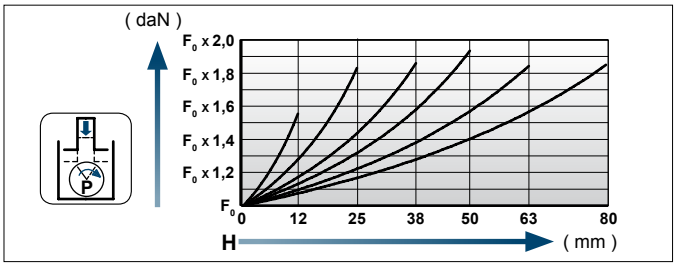


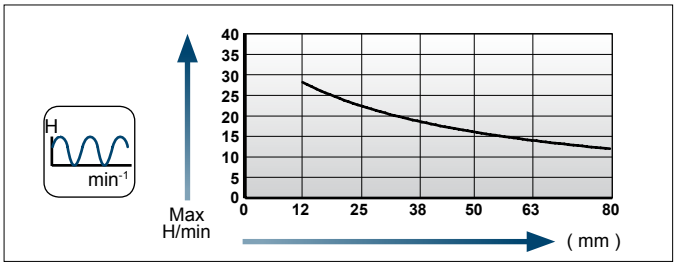


NC.042.00.04300.063

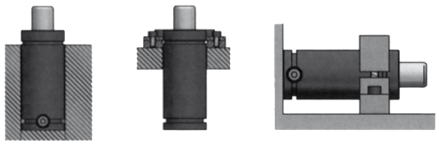
H Hub / Stroke	L ±0,25	LG	Kraft / Force (170 bar) Anfang / Initial [daN]	Ende / Final [daN]
012	94	82	4190	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	120	95	4190	
038	150	112	4190	
050	175	125	4190	
063	210	147	4190	
080	250	170	4190	





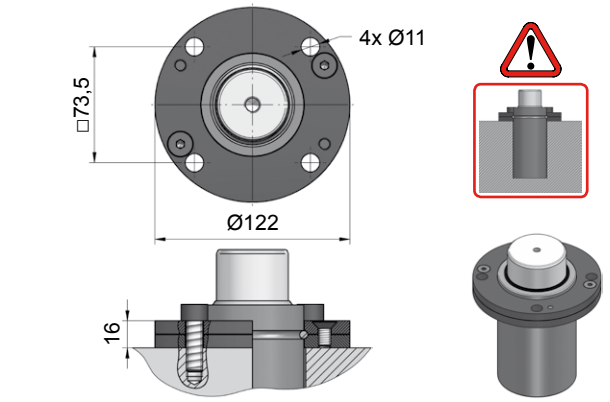


Einbaubeispiele / Flange mounting options

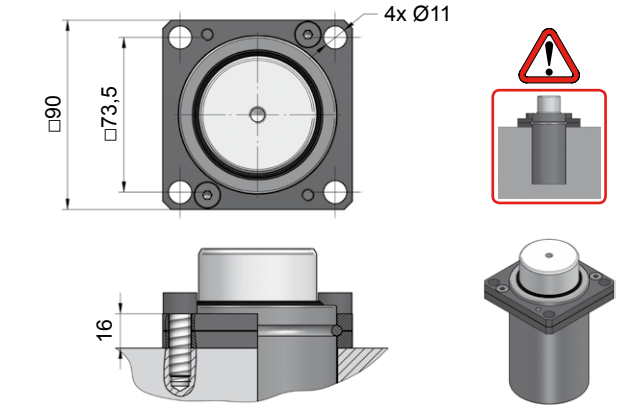


[NC]

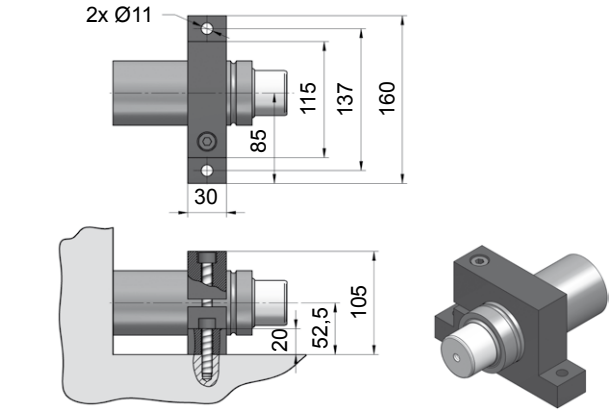
Flansche für / Flanges for **NC.042.00.04300**



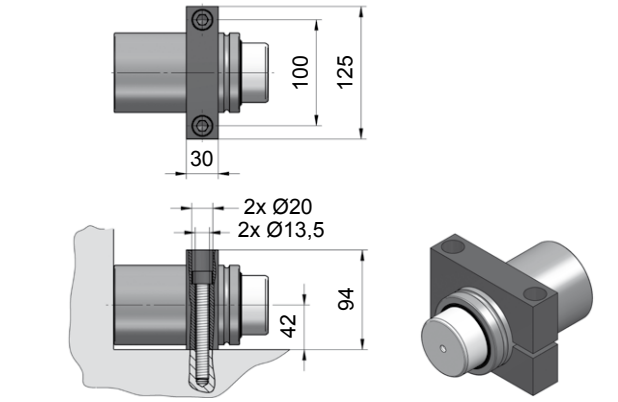
NC.88.00.075.0114



NC.88.00.075.0134



NC.88.00.075.0402

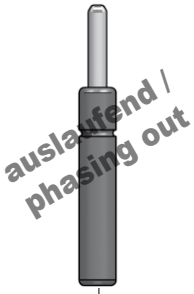


NC.88.00.075.0467

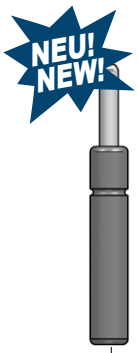
Größenübersicht Serie NC.05X.00

Gas spring index NC.05X.00 series

NC.050.00
50 - 200 daN
12 - 100 mm
Ø25



NC.051.00
13 - 50 daN
7 - 80 mm
Ø12



NC.051.00...
13 - 50 daN
7 - 80 mm
Ø12

NC.052.00
30 - 90 daN
7 - 125 mm
Ø19

NC.053.00
50 - 200 daN
7 - 125 mm
Ø25

NC.054.01
50 - 200 daN
10 - 50 mm
Ø25

NC.055.00
25 - 100 daN
10 - 80 mm
Ø20

NC.056.00
50 - 200 daN
10 - 125 mm
Ø25

NC.057.00
18 - 90 daN
7 - 80 mm
Ø15

NC.058.00
80 - 350 daN
7 - 125 mm
Ø32

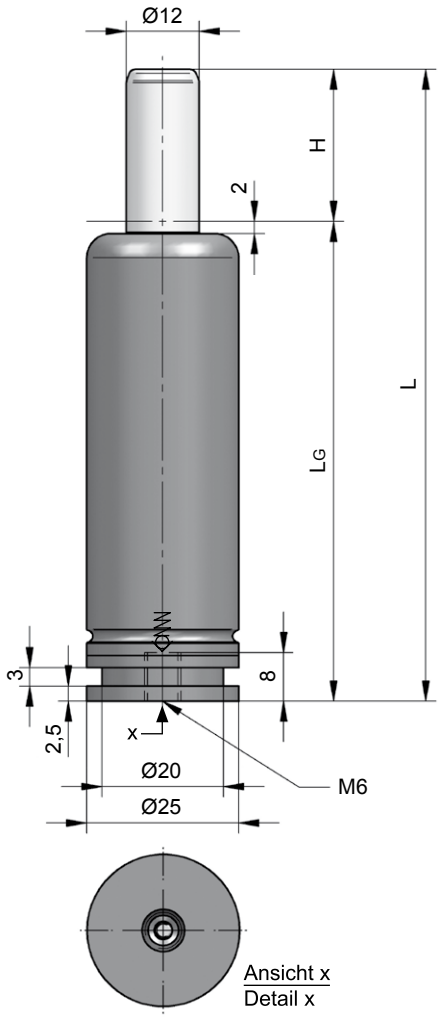
NC.050.00

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

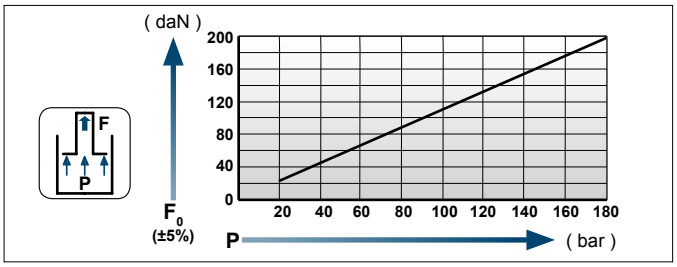
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

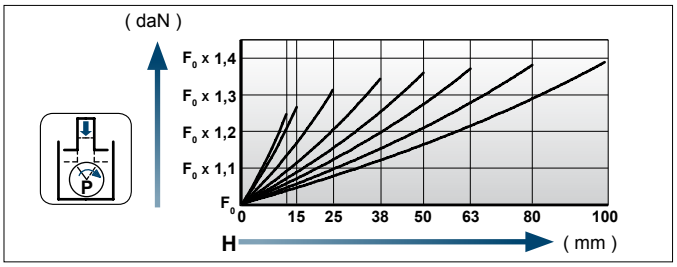


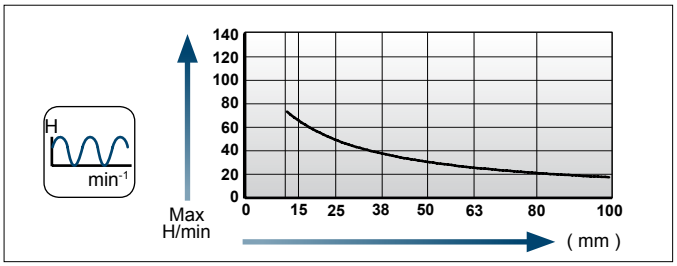
NC.050.00.00050.015

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.050.00.00050	Grün / Green	45	50	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.050.00.00100	Blau / Blue	90	100	
NC.050.00.00150	Rot / Red	135	150	
NC.050.00.00200	Gelb / Yellow	180	200	

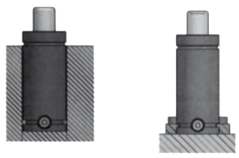
Hub / Stroke	L ±0,25	LG
012	78	66
015	84	69
025	104	79
038	130	92
050	154	104
063	180	117
080	214	134
100	254	154





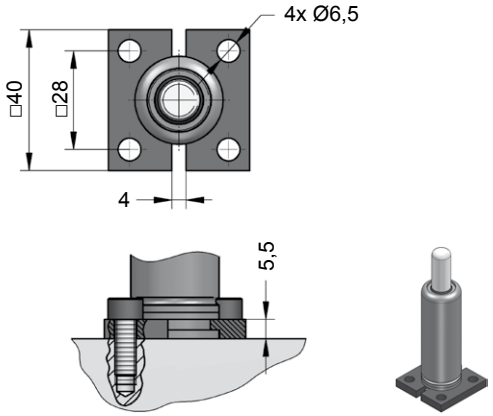


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.050.00.00050, …00100, …00150, …00200**



NC.88.00.025.0315

NC.051.00

Technische Daten:

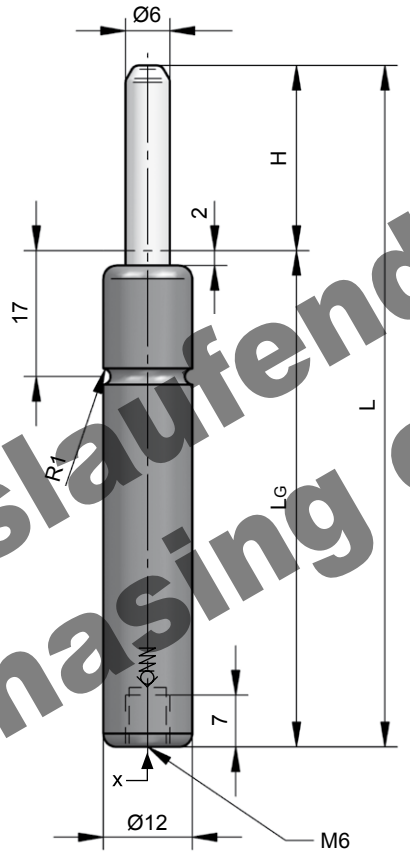
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Achtung: Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

Important: Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.

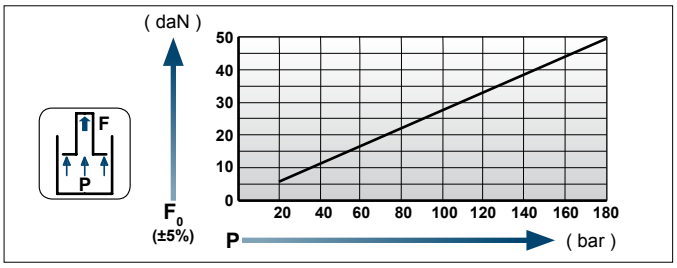


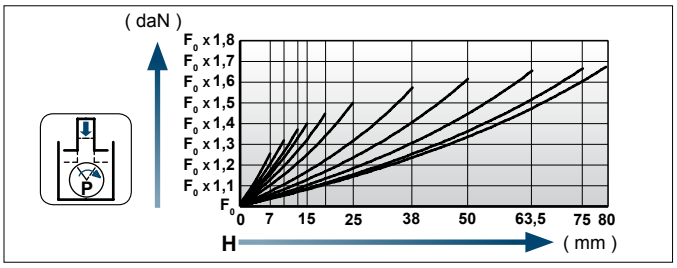
auslaufend / phasing out

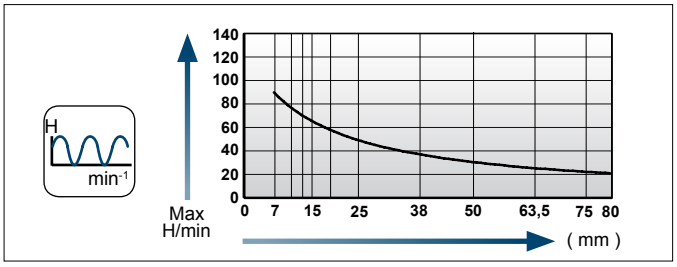
NC.051.00.
00025.025

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Ende / Final [daN]
NC.051.00.00013	Grün / Green	45	13	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.051.00.00025	Blau / Blue	90	25	
NC.051.00.00038	Rot / Red	135	38	
NC.051.00.00050	Gelb / Yellow	180	50	

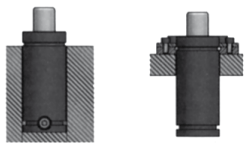
Hub / Stroke	L ±0,25	LG
007	56	49
010	62	52
013	68	55
015	72	57
019	80	61
025	92	67
038	118	80
050	142	92
063	169	105,5
075	195	120
080	205	125



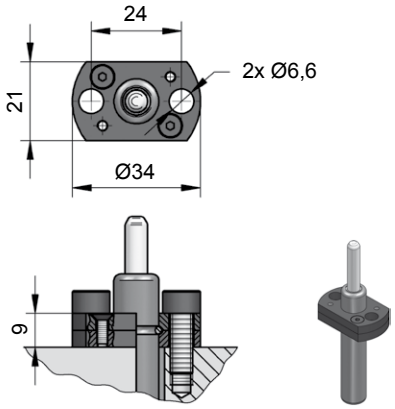




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.051.00.00013, …00025, …00038, …00050**



NC.88.00.012.0149

NC.051.00…1

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

Achtung: Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

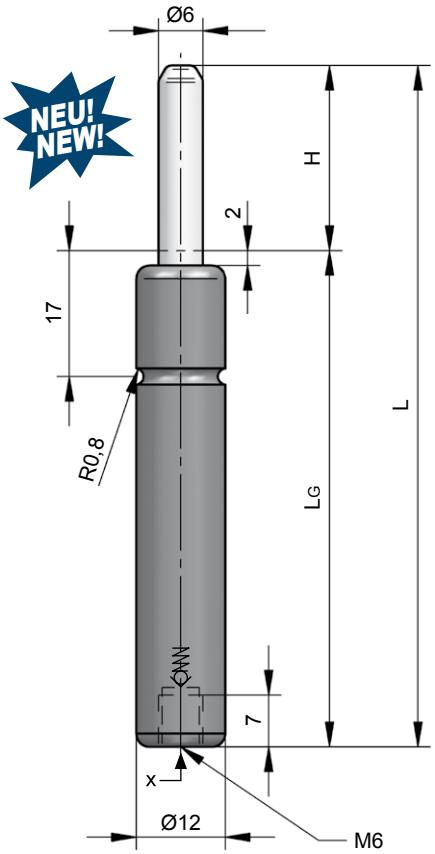
Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

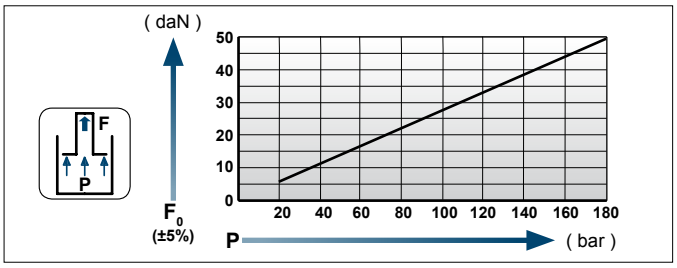
Important: Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.

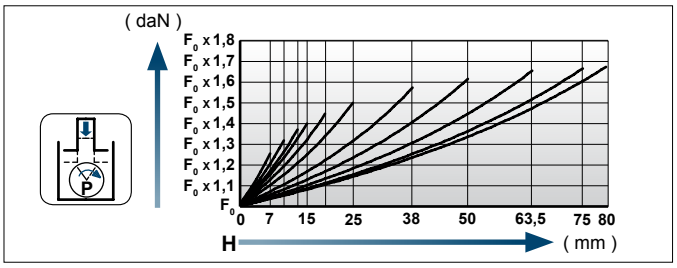
NC.051.00.00025.025.1

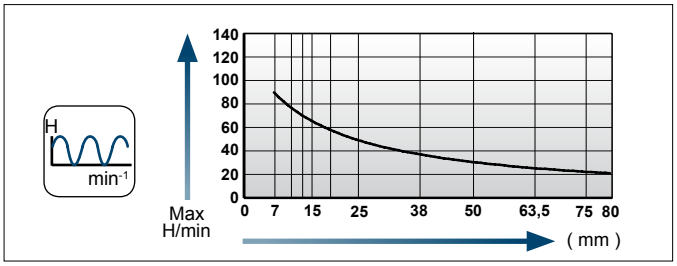


Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.051.00.00013	Grün / Green	45	13	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.051.00.00025	Blau / Blue	90	25	
NC.051.00.00038	Rot / Red	135	38	
NC.051.00.00050	Gelb / Yellow	180	50	

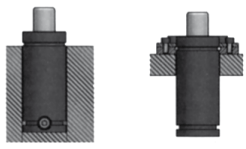
Hub / Stroke	L ±0,25	LG
007	56	49
010	62	52
012,7	67,4	54,7
015	72	57
019	80	61
025	92	67
038	118	80
050	142	92
063,5	172	108,5
075	195	120
080	205	125



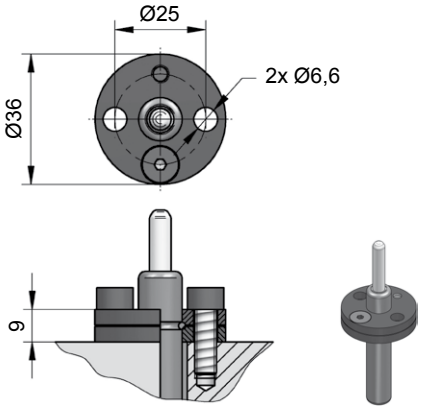




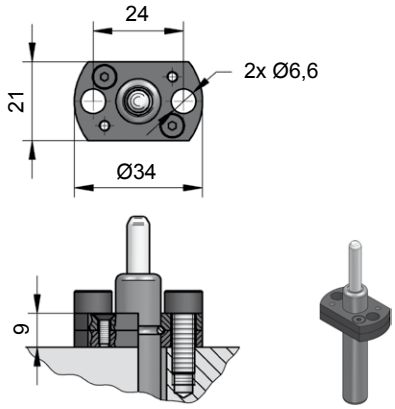
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.051.00.00013…1, …00025…1, …00038…1, …00050…1**



NC.88.00.012.0114



NC.88.00.012.0159

NC.052.00

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

Achtung: Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

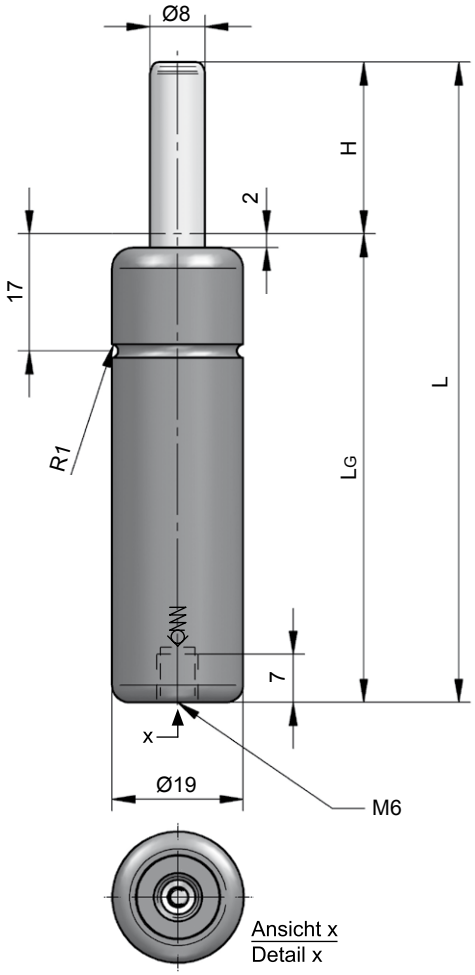
Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

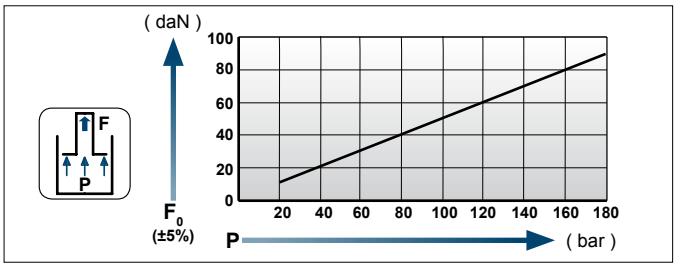
Important: Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.

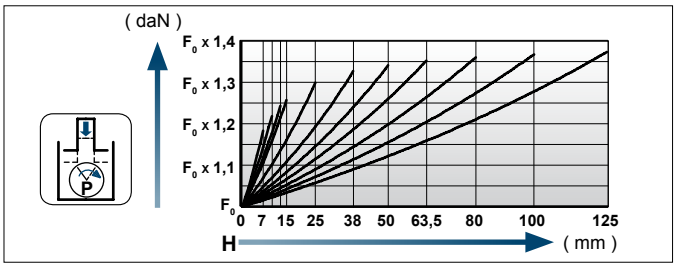
NC.052.00.00030.080

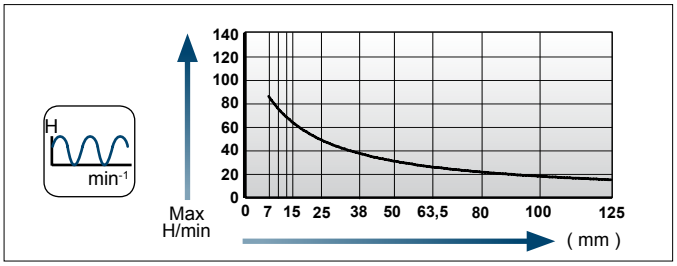


Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.052.00.00030	Grün / Green	60	30	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.052.00.00050	Blau / Blue	100	50	
NC.052.00.00070	Rot / Red	140	70	
NC.052.00.00090	Gelb / Yellow	180	90	

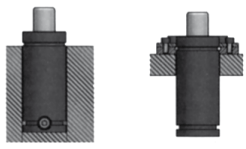
Hub / Stroke	L ±0,25	LG
007	56	49
010	62	52
012,7	67,4	54,7
015	72	57
025	92	67
038	118	80
050	142	92
063,5	172	108,5
080	205	125
100	245	145
125	295	170





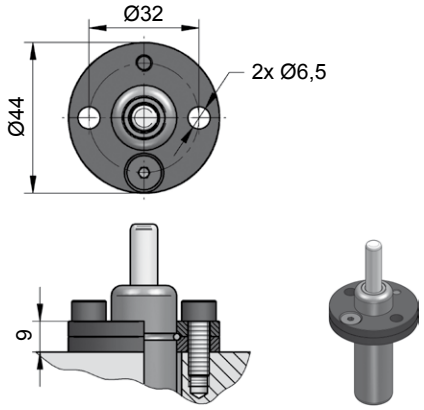


Einbaubeispiele / Flange mounting options

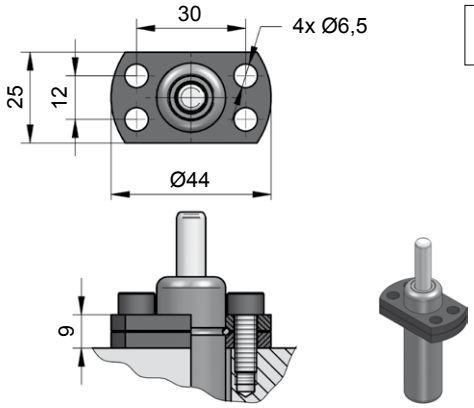


[NC]

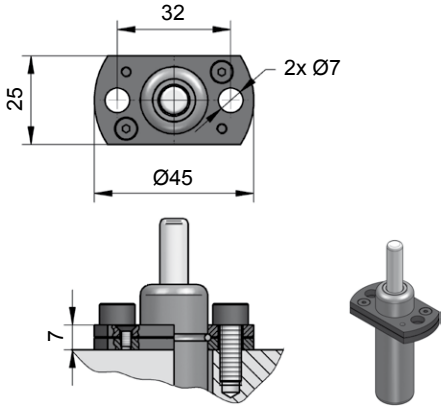
Flansche für / Flanges for **NC.052.00.00030, …00050, …00070, …00090**



NC.88.00.019.0114



NC.88.00.019.0144



NC.88.00.019.0149

NC.053.00

Technische Daten:

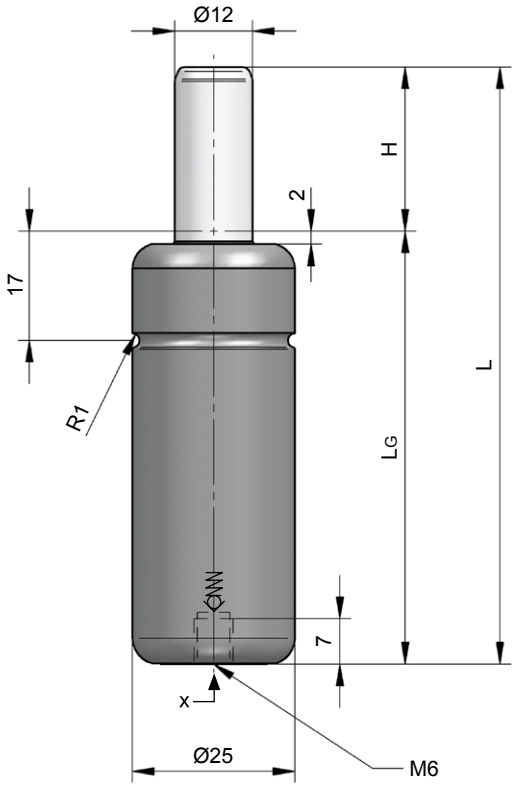
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

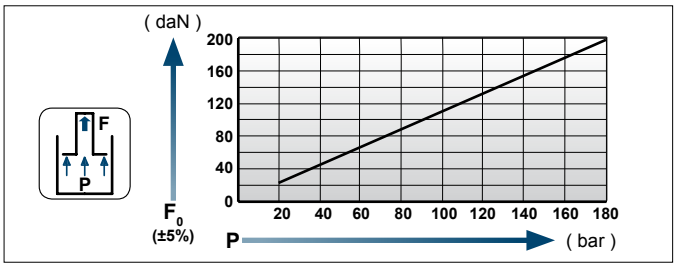


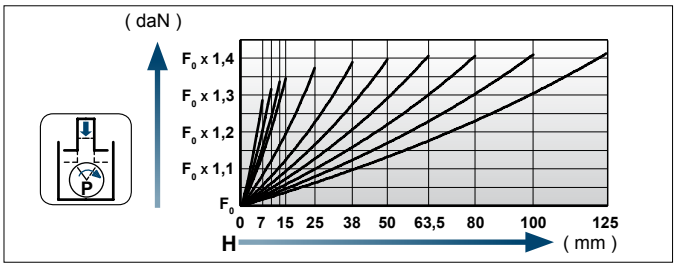
Ansicht x
Detail x

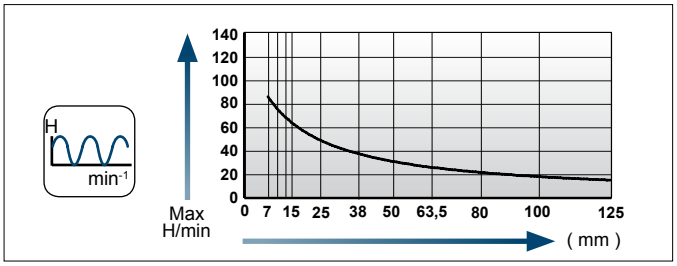
NC.053.00.00050.007

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Ende / Final [daN]
NC.053.00.00050	Grün / Green	45	50	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.053.00.00100	Blau / Blue	90	100	
NC.053.00.00150	Rot / Red	135	150	
NC.053.00.00200	Gelb / Yellow	180	200	

Hub / Stroke	L ±0,25	LG
007	56	49
010	62	52
012,7	67,4	54,7
015	72	57
025	92	67
038	118	80
050	142	92
063,5	172	108,5
080	205	125
100	245	145
125	295	170



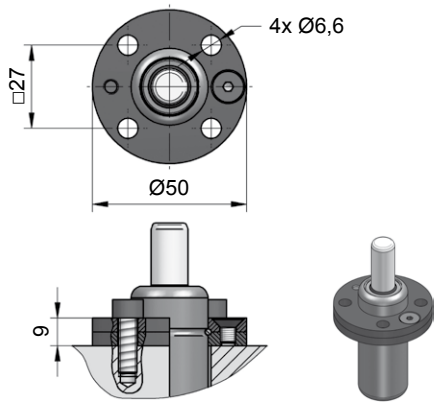




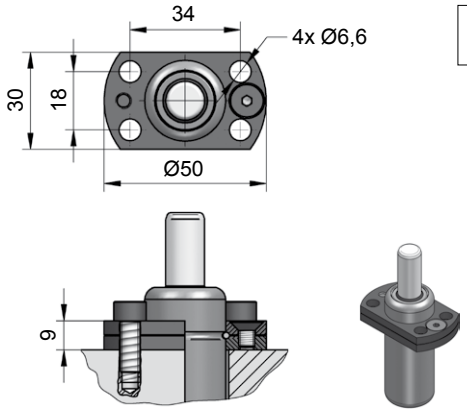
Einbaubeispiele / Flange mounting options

[NC]

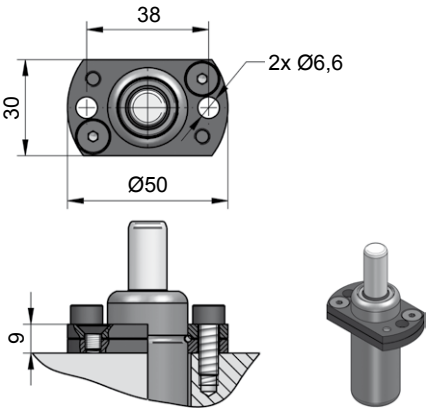
Flansche für / Flanges for **NC.053.00.00050, …00100, …00150, …00200**



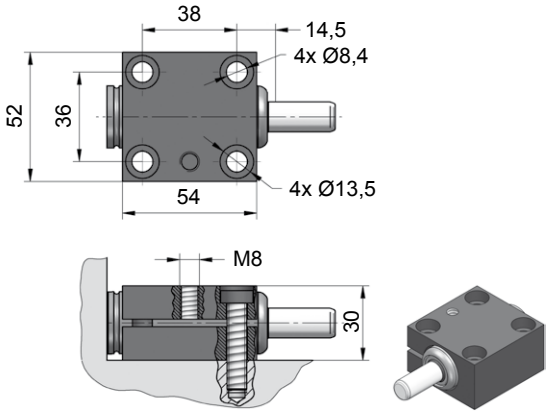
NC.88.00.025.0114



NC.88.00.025.0144

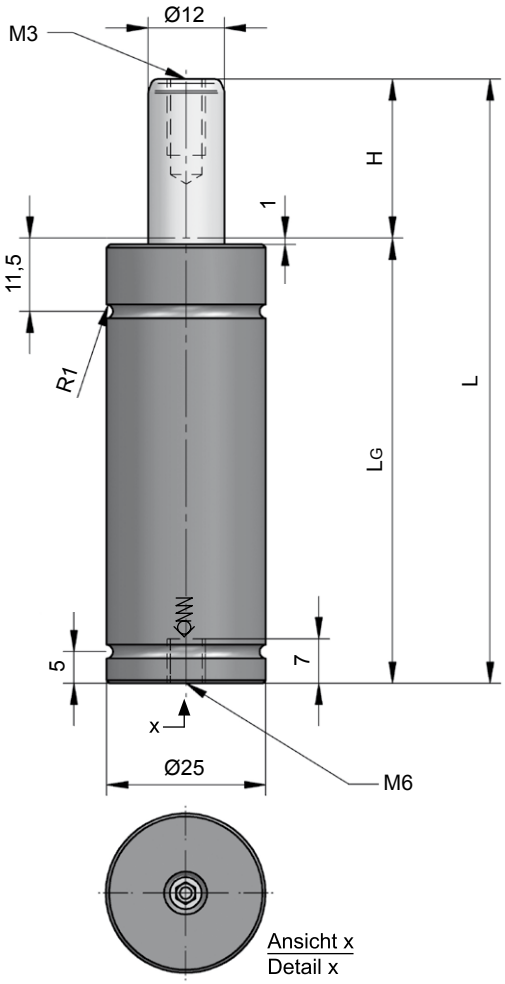


NC.88.00.025.0149



NC.88.00.025.0402

NC.054.01



Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

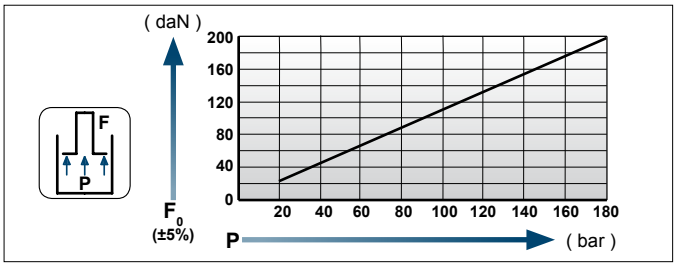
Specifications:

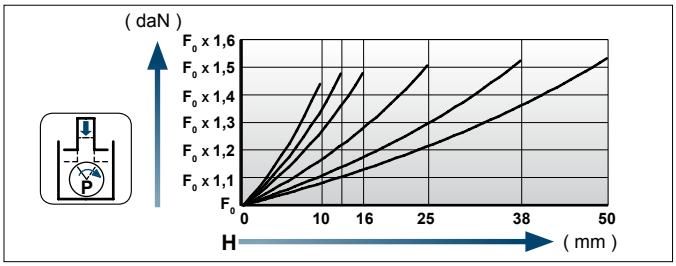
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

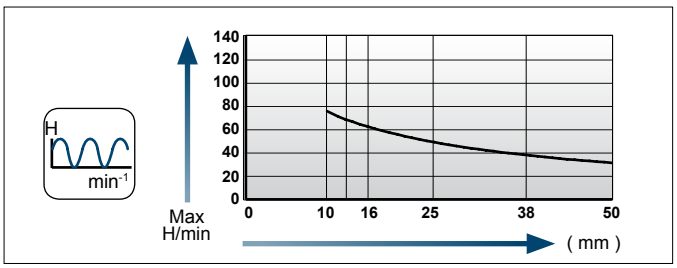
NC.054.01.00050.016

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.054.01.00050	Grün / Green	45	50	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.054.01.00100	Blau / Blue	90	100	
NC.054.01.00150	Rot / Red	135	150	
NC.054.01.00200	Gelb / Yellow	180	200	

Hub / Stroke	L ±0,25	LG
010	65	55
012,7	70,4	57,7
016	77	61
025	95	70
038	121	83
050	147	95

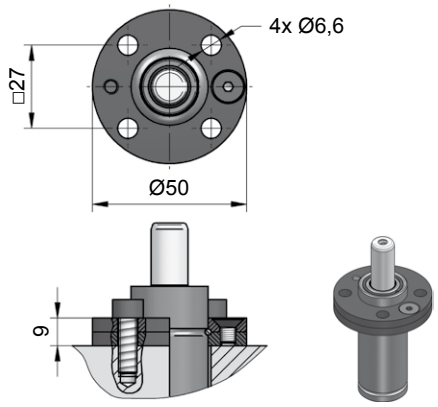




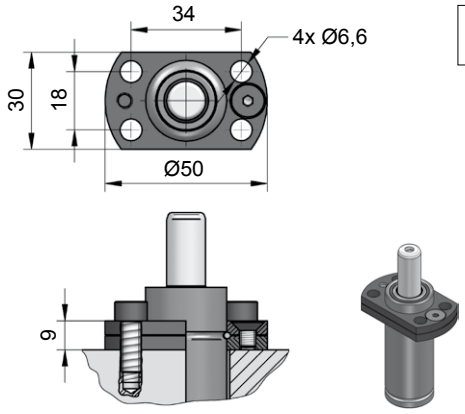


Einbaubeispiele / Flange mounting options

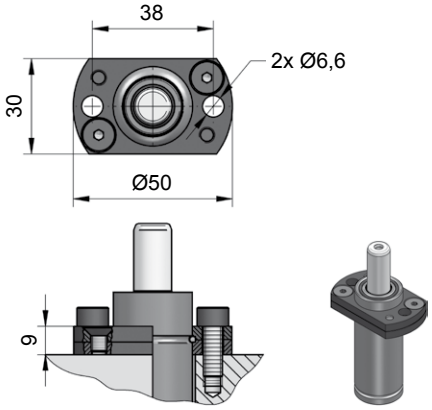
Flansche für / Flanges for **NC.054.01.00050, …00100, …00150, …00200**



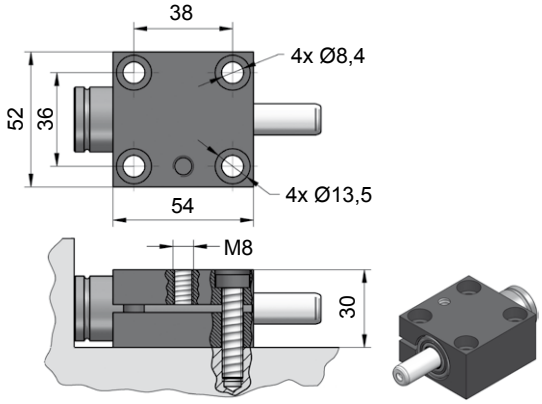
NC.88.00.025.0114



NC.88.00.025.0144



NC.88.00.025.0149



NC.88.00.025.0402

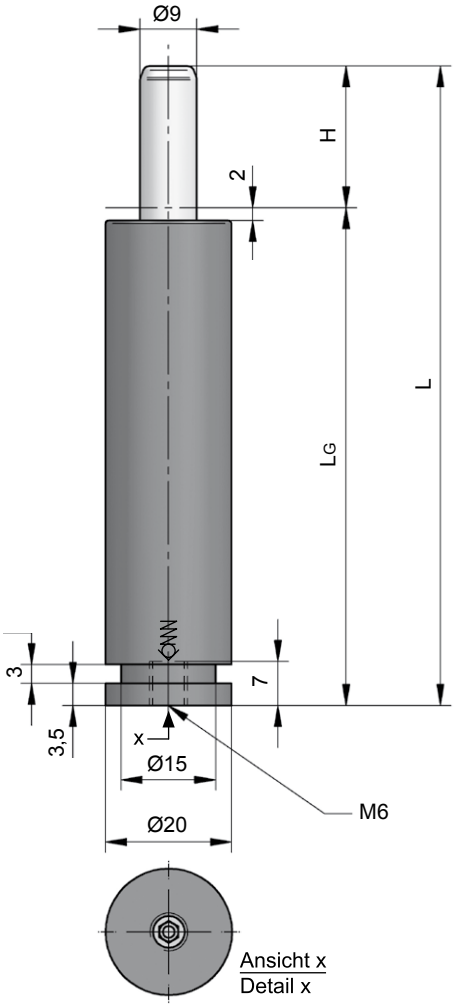
NC.055.00

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

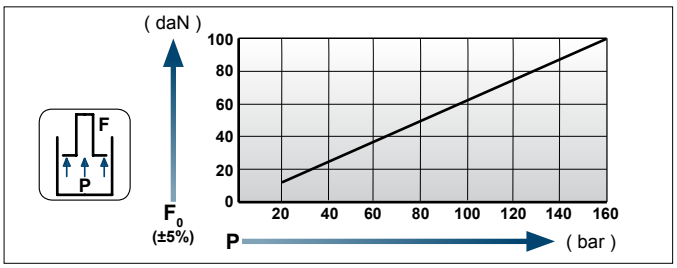
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

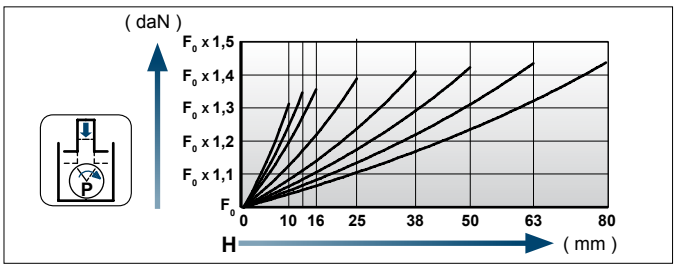


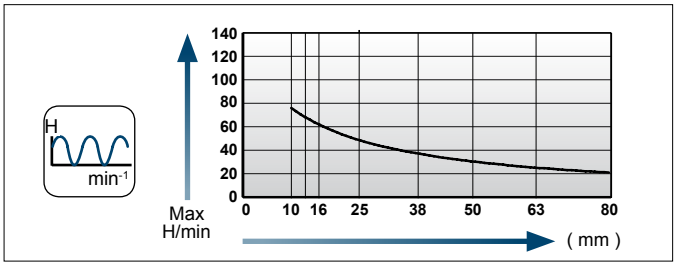
NC.055.00.00025.050

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.055.00.00025	Grün / Green	40	25	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.055.00.00050	Blau / Blue	80	50	
NC.055.00.00075	Rot / Red	120	75	
NC.055.00.00100	Gelb / Yellow	160	100	

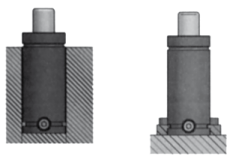
Hub / Stroke	L ±0,25	LG
010	74	64
012,7	79,4	66,7
016	86	70
025	104	79
038	130	92
050	154	104
063	180	117
080	214	134





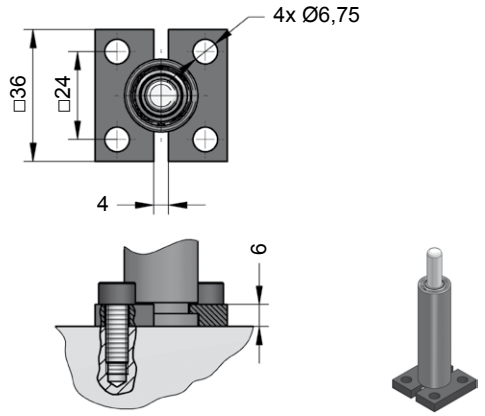


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.055.00.00025, …00050, …00075, …00100**



NC.88.00.020.0315

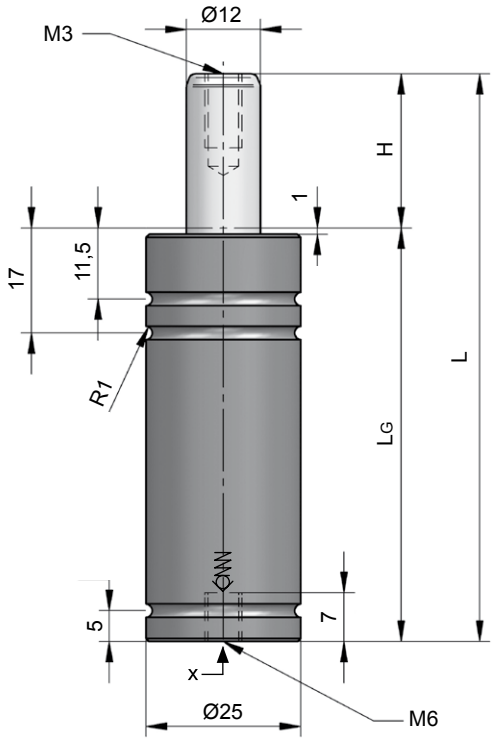
NC.056.00

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

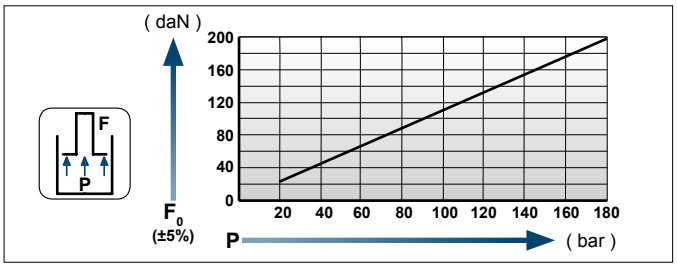


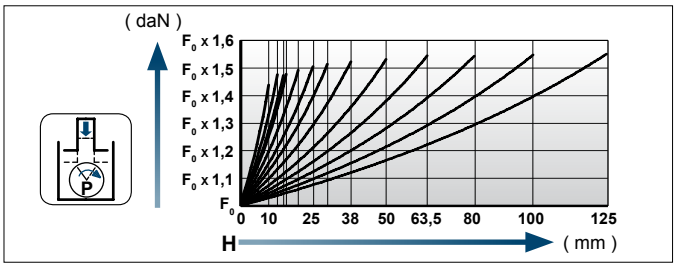
Ansicht x
Detail x

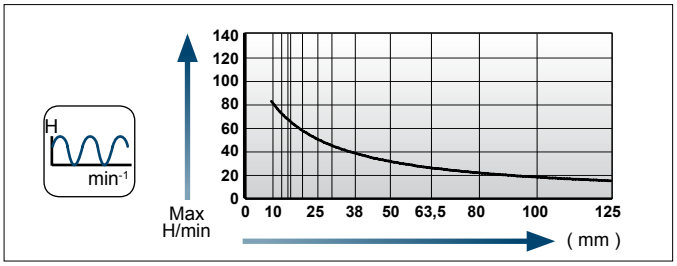
NC.056.00.00150.016

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Ende / Final [daN]
NC.056.00.00050	Grün / Green	45	50	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.056.00.00100	Blau / Blue	90	100	
NC.056.00.00150	Rot / Red	135	150	
NC.056.00.00200	Gelb / Yellow	180	200	

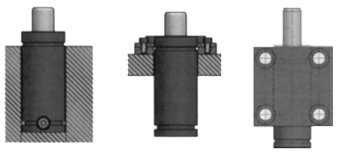
Hub / Stroke	L ±0,5	LG
010	62	52
012,7	67,4	54,7
015	72	57
016	74	58
020	82	62
025	92	67
030	102	72
038	118	80
050	142	92
063,5	172	108,5
080	205	125
100	245	145
125	295	170



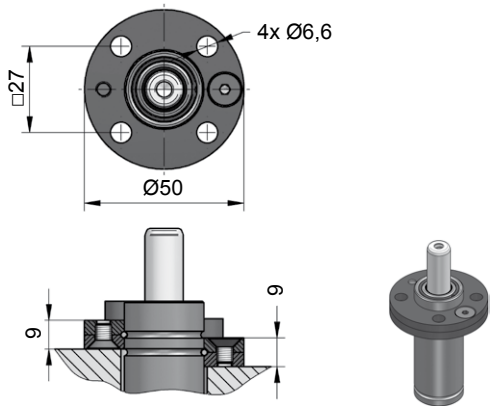




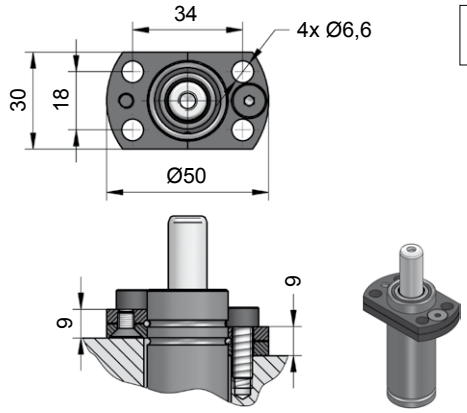
Einbaubeispiele / Flange mounting options



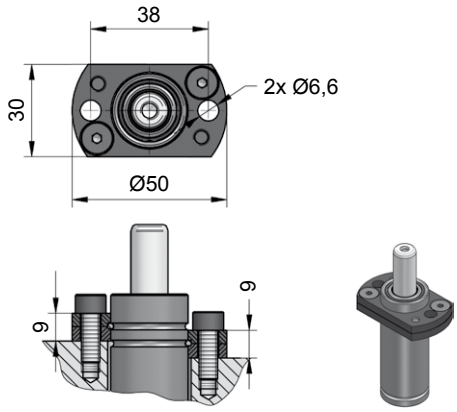
Flansche für / Flanges for **NC.056.00.00050, …00100, …00150, …00200**



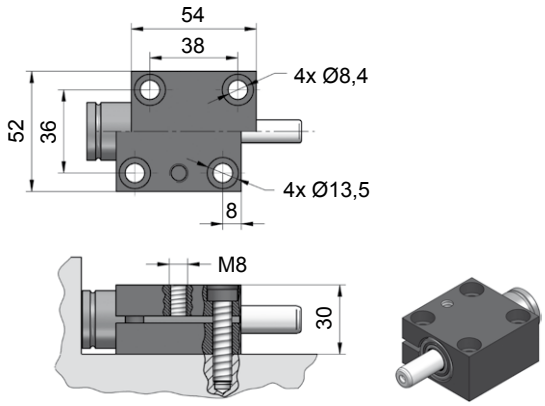
NC.88.00.025.0114



NC.88.00.025.0144



NC.88.00.025.0149



NC.88.00.025.0402

NC.057.00

NEU! NEW!

ZUGELASSEN PED 97/23/EG

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

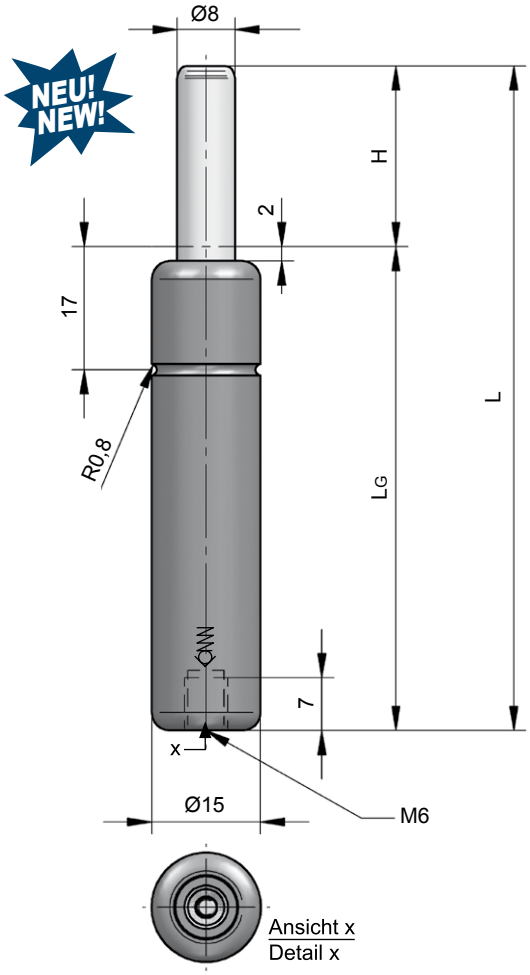
Achtung: Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

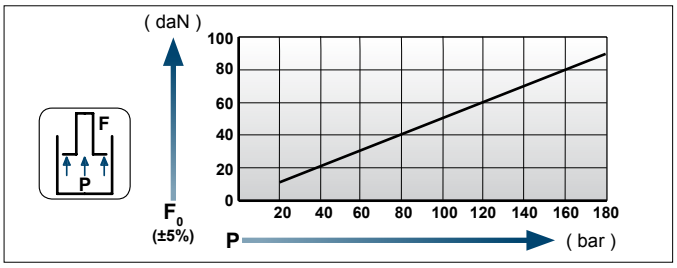
Important: Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.

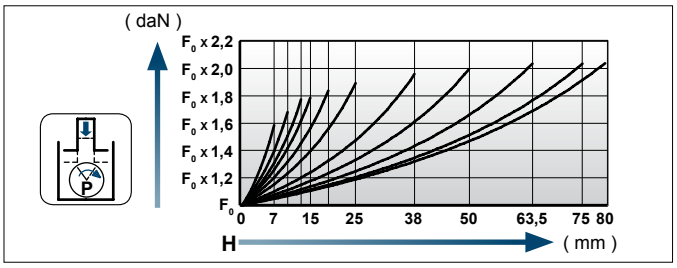


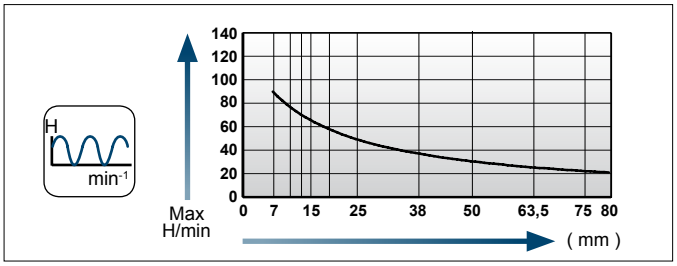
NC.057.00.00090.015

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.057.00.00018	Grün / Green	35	18	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.057.00.00035	Blau / Blue	70	35	
NC.057.00.00050	Rot / Red	100	50	
NC.057.00.00070	Gelb / Yellow	140	70	
NC.057.00.00090	Braun / Brown	180	90	

Hub / Stroke	L ±0,5	LG
007	56	49
010	62	52
012,7	67,4	54,7
015	72	57
019	80	61
025	92	67
038	118	80
050	142	92
063,5	172	108,5
075	195	120
80	205	125



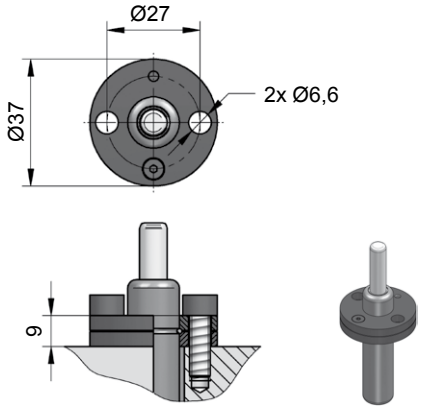




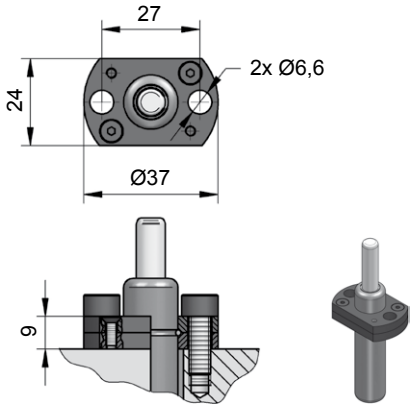
Einbaubeispiele / Flange mounting options

[NC]

Flansche für / Flanges for **NC.057.00.00018, …00035, …00050, …00070, …00090**



NC.88.00.015.0114



NC.88.00.015.0149

NC.058.00

Technische Daten:

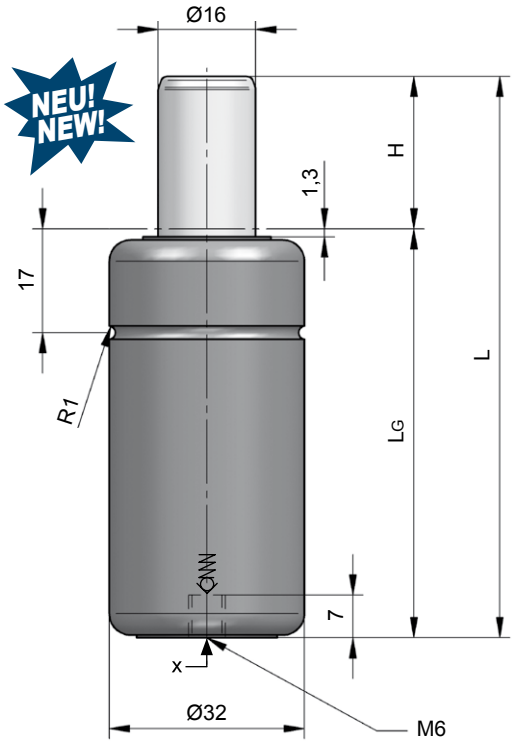
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Einwegfeder ist nicht reparierbar!

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

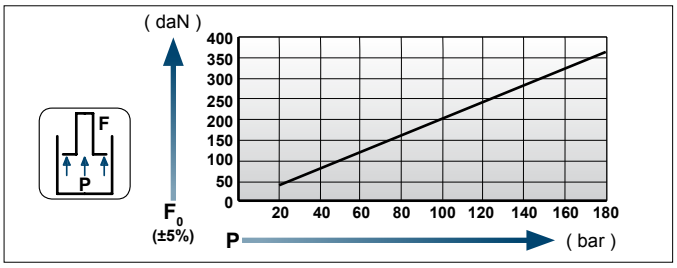
One-way spring is irreparable!

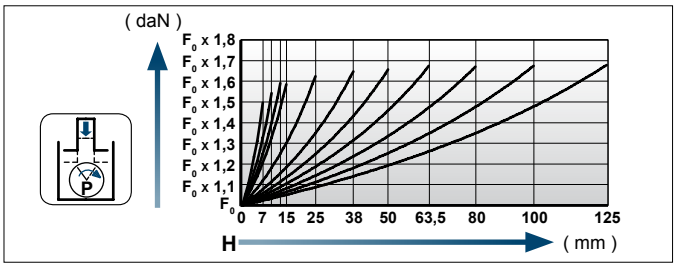


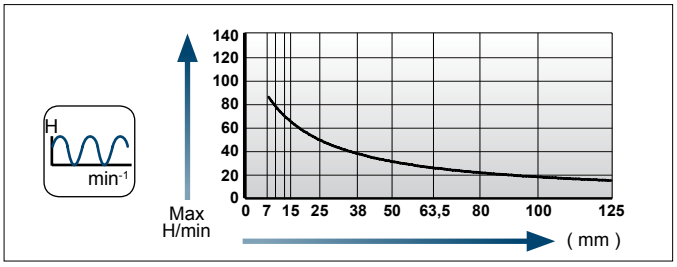
NC.058.00.00160.038

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.058.00.00080	Grün / Green	40	80	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.058.00.00160	Blau / Blue	80	160	
NC.058.00.00240	Rot / Red	120	240	
NC.058.00.00310	Gelb / Yellow	155	310	
NC.058.00.00350	Braun / Brown	175	350	

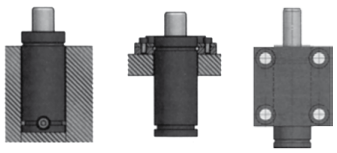
Hub / Stroke	L ±0,5	LG
007	56	49
010	62	52
012,7	67,4	54,7
015	72	57
025	92	67
038	118	80
050	142	92
063,5	172	108,5
080	205	125
100	245	145
125	295	170



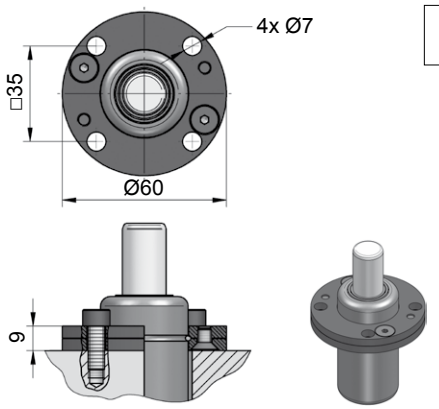




Einbaubeispiele / Flange mounting options

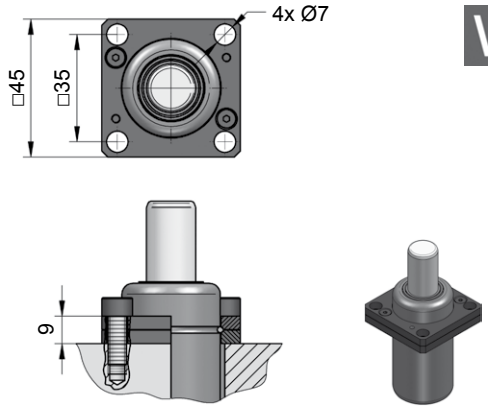


Flansche für / Flanges for **NC.058.00.00080, …00160, …00240, …00310, …00350**



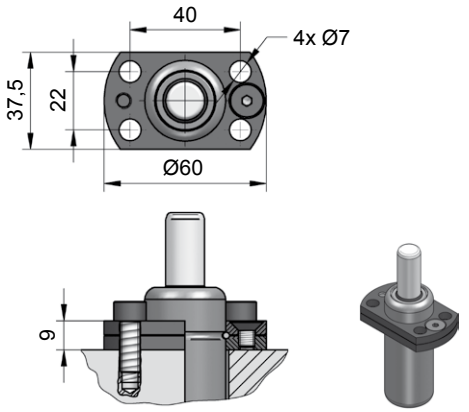
ISO

NC.88.00.032.0114

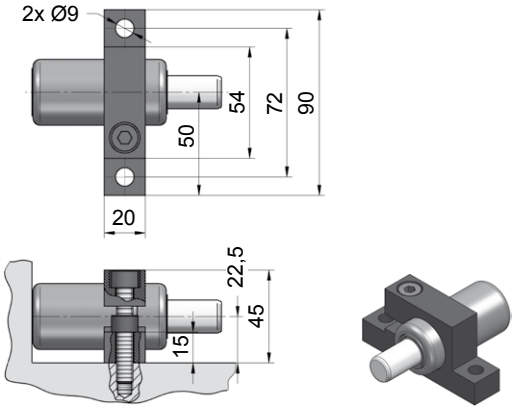


VDI

NC.88.00.032.0134



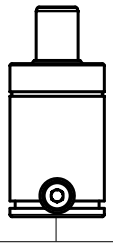
NC.88.00.032.0144



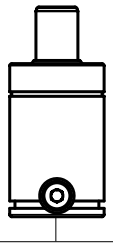
NC.88.00.032.0402

Größenübersicht Serie NC.060.09

Gas spring index 060.09 series

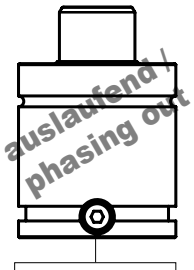


NC.060.09.00300
300 daN
6,3 - 125 mm
Ø38

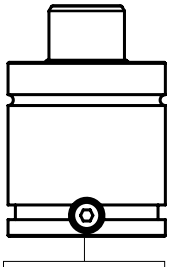


NC.060.09.00500
470 daN
6 - 125 mm
Ø45

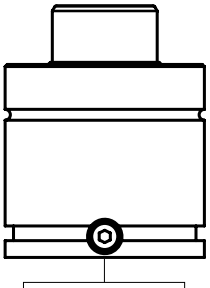
NC.060.09.00750
740 daN
6 - 125 mm
Ø50



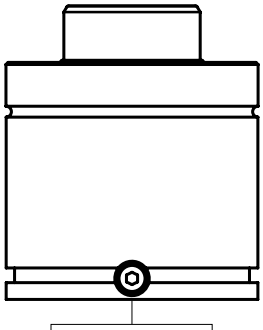
NC.060.09.01500
1530 daN
25 - 100 mm
Ø75



NC.060.09.01500...1
1530 daN
25 - 100 mm
Ø75



NC.060.09.03000
2945 daN
25 - 100 mm
Ø95



NC.060.09.05000
4980 daN
25 - 100 mm
Ø120

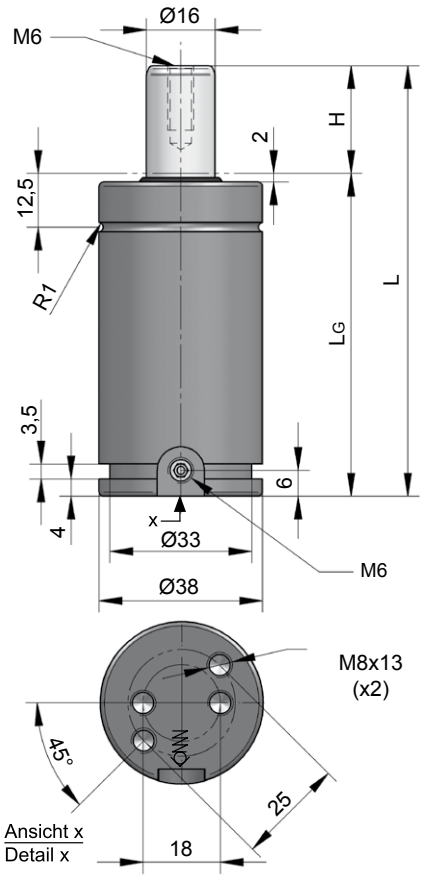
NC.060.09.00300

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

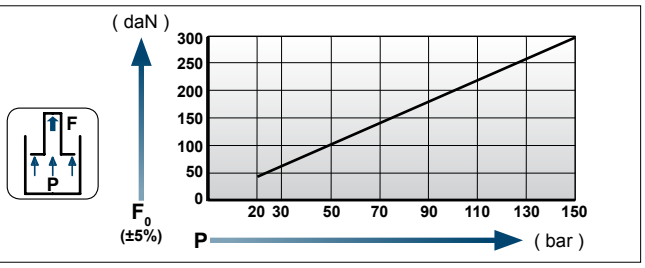
Specifications:

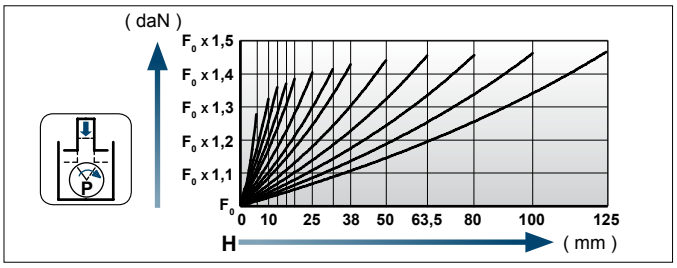
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

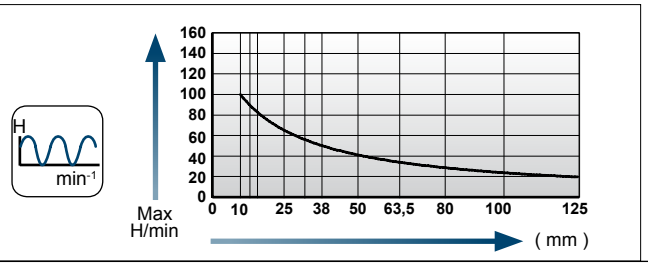


NC.060.09.
00300.006

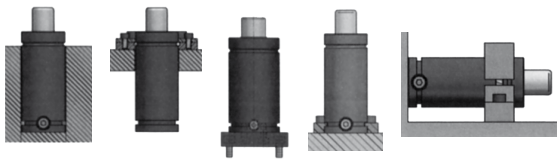
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	 Ende / Final [daN]
006,3	62,6	56,3	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
010	70	60	300	
012,7	75,4	62,7	300	
016	82	66	300	
019	88	69	300	
025	100	75	300	
032	114	82	300	
038	126	88	300	
050	150	100	300	
063,5	177	113,5	300	
080	210	130	300	
100	250	150	300	
125	300	175	300	



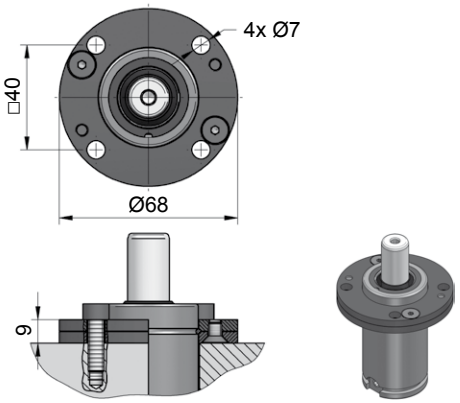




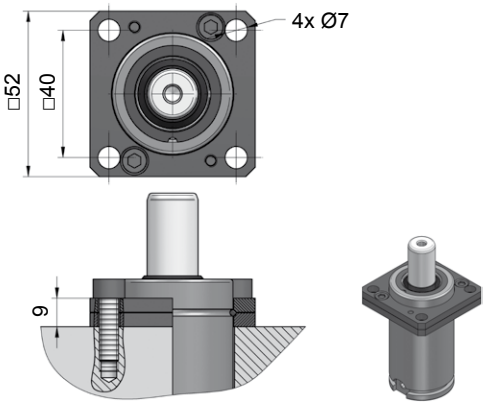
Einbaubeispiele / Flange mounting options



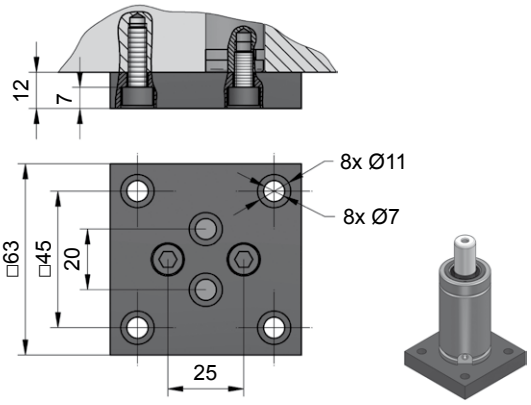
Flansche für / Flanges for **NC.060.09.00300**



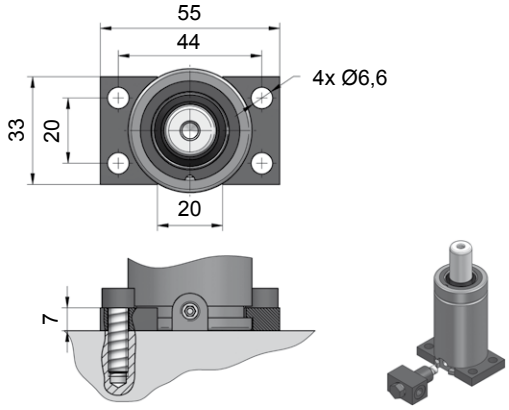
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0276



NC.88.00.038.0305

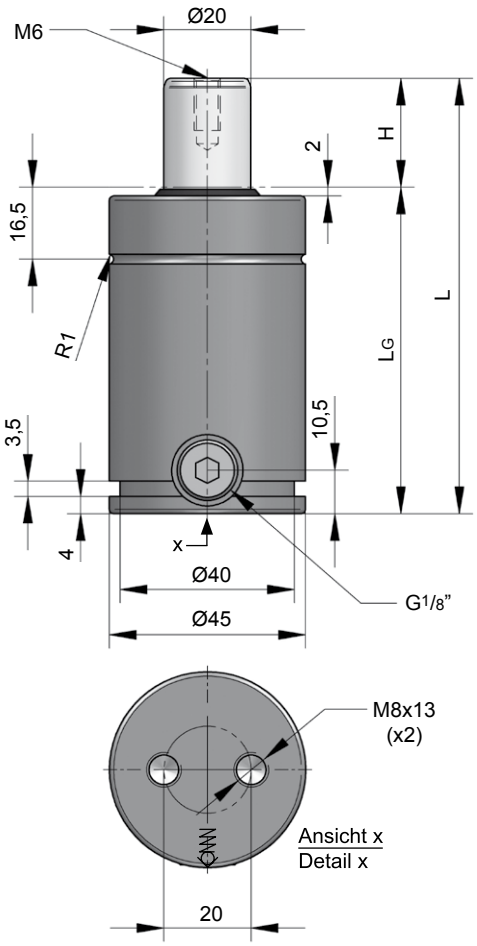
NC.060.09.00500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

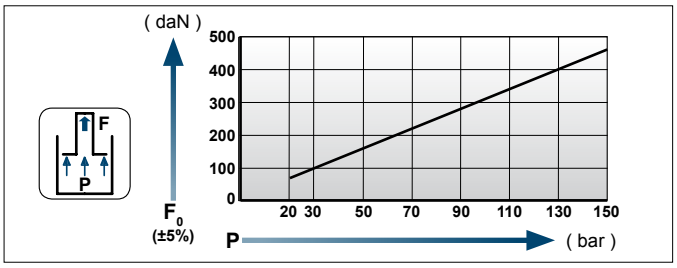
Specifications:

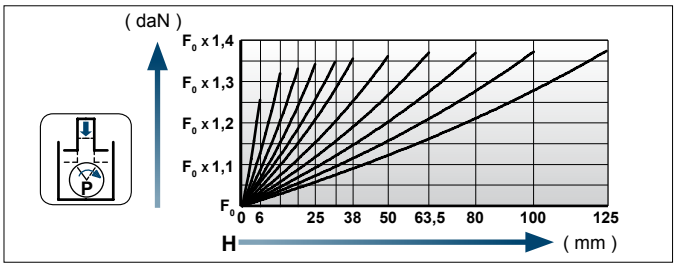
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

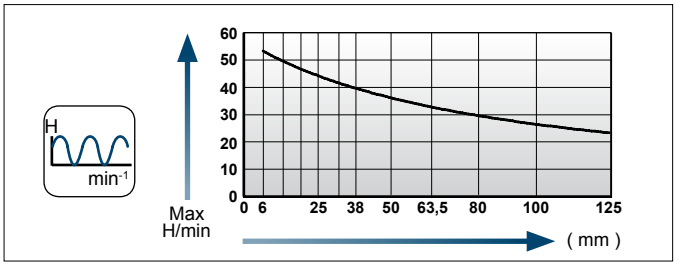


NC.060.09.00500.006

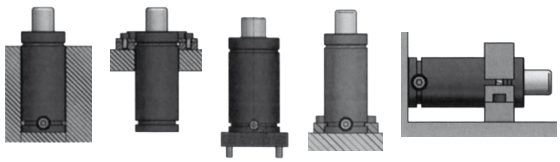
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	62	56	470	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	470	
019	88	69	470	
025	100	75	470	
032	114	82	470	
038	126	88	470	
050	150	100	470	
063,5	177	113,5	470	
080	210	130	470	
100	250	150	470	
125	300	175	470	





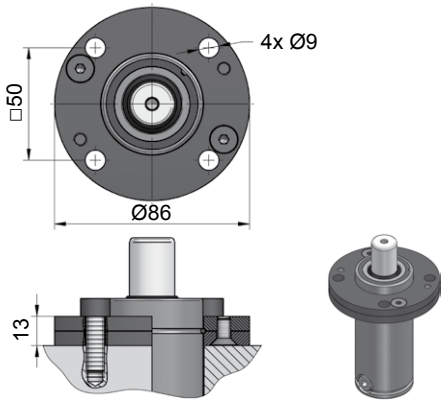


Einbaubeispiele / Flange mounting options

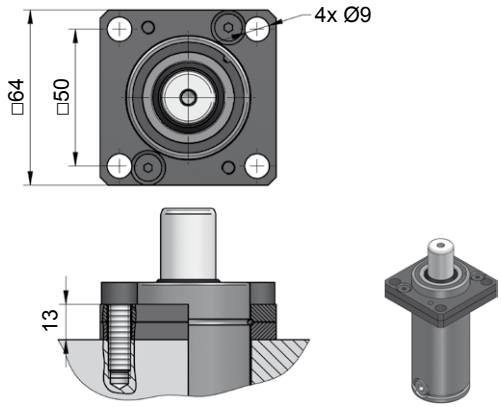


[NC]

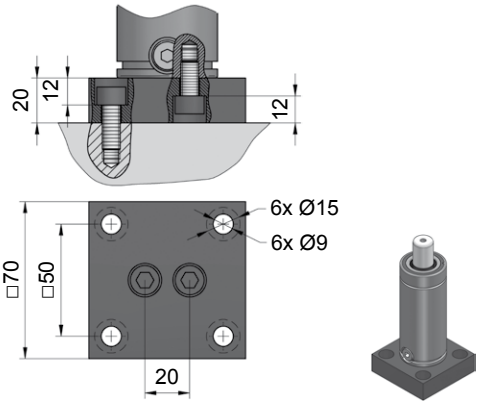
Flansche für / Flanges for **NC.060.09.00500**



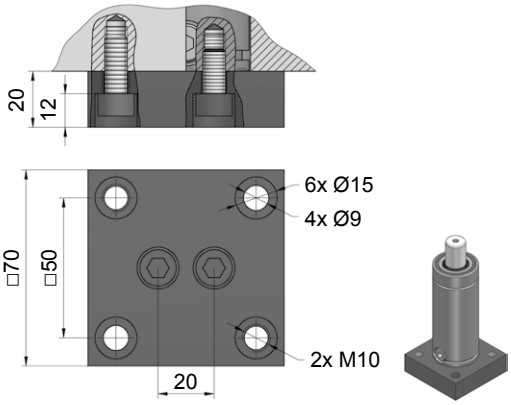
NC.88.00.045.0114



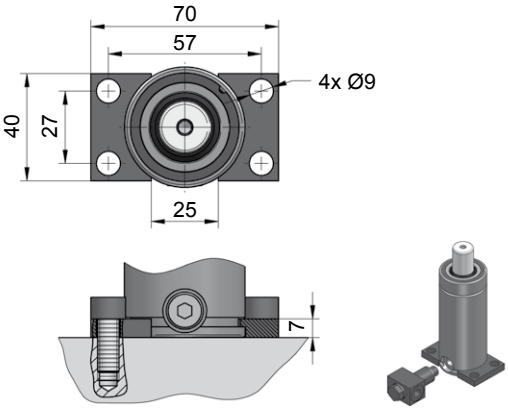
NC.88.00.045.0134



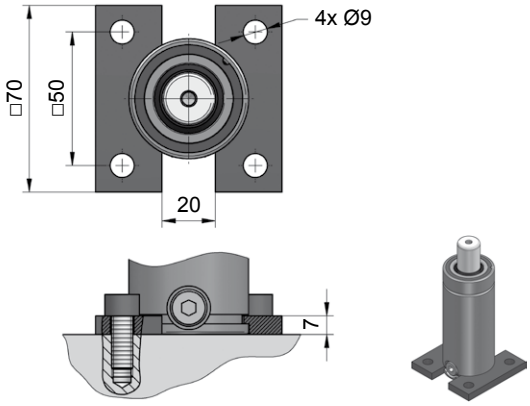
NC.88.00.045.0221



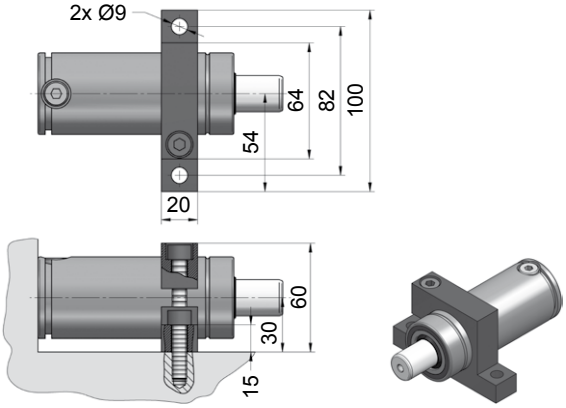
NC.88.00.045.0276



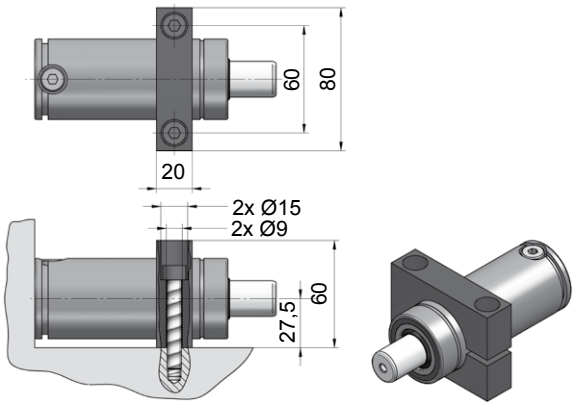
NC.88.00.045.0305



NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

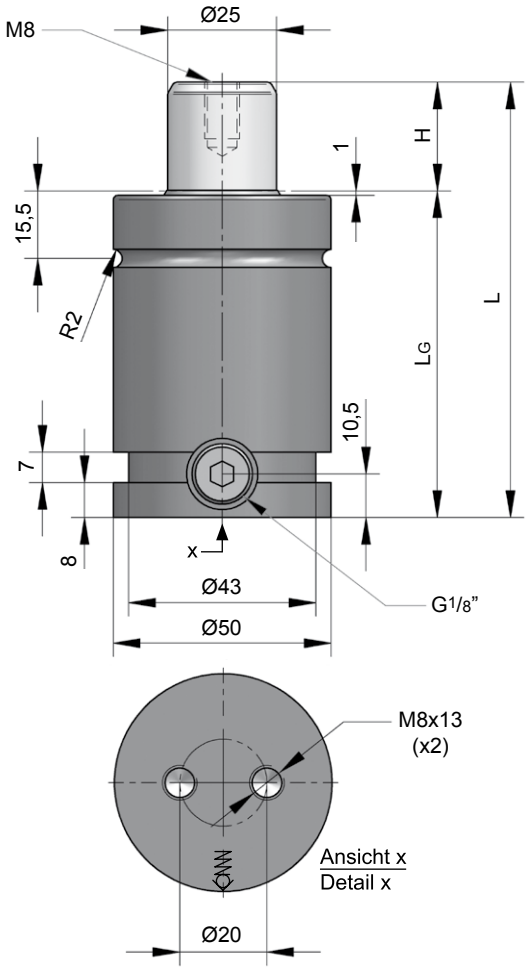
NC.060.09.00750

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

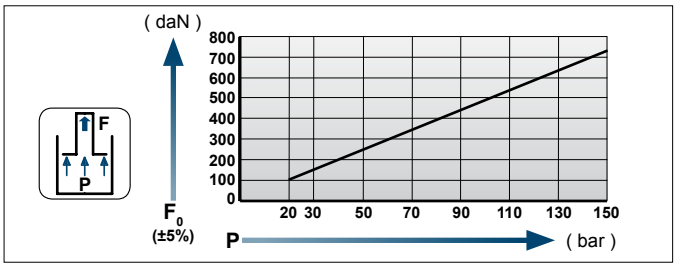
Specifications:

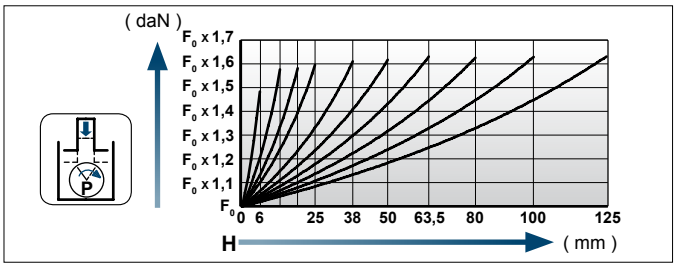
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

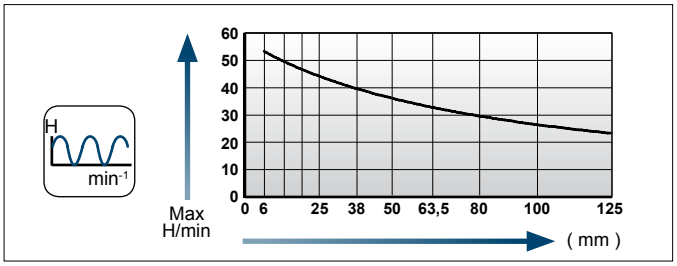


NC.060.09.00750.006

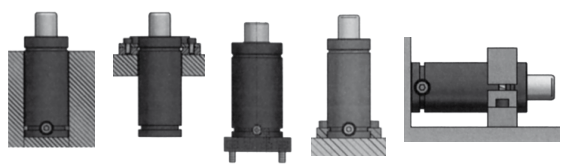
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
006	62	56	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	740	
019	88	69	740	
025	100	75	740	
038	126	88	740	
050	150	100	740	
063,5	177	113,5	740	
080	210	130	740	
100	250	150	740	
125	300	175	740	



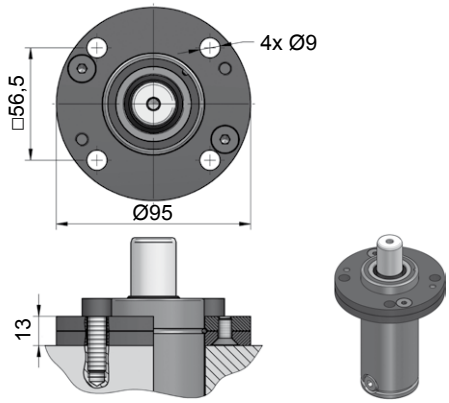




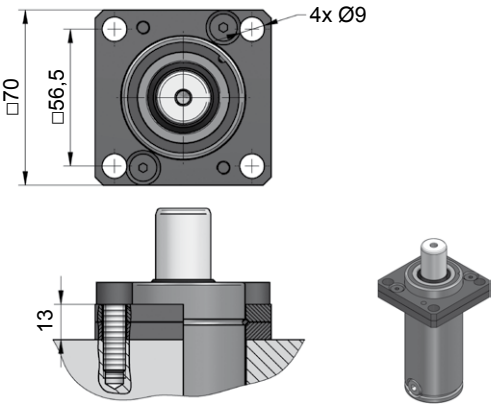
Einbaubeispiele / Flange mounting options



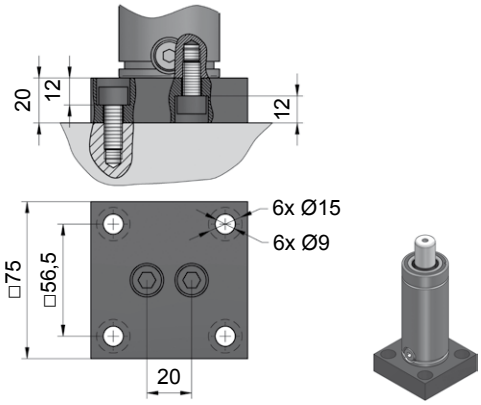
Flansche für / Flanges for **NC.060.09.00750**



NC.88.00.050.0114



NC.88.00.050.0134



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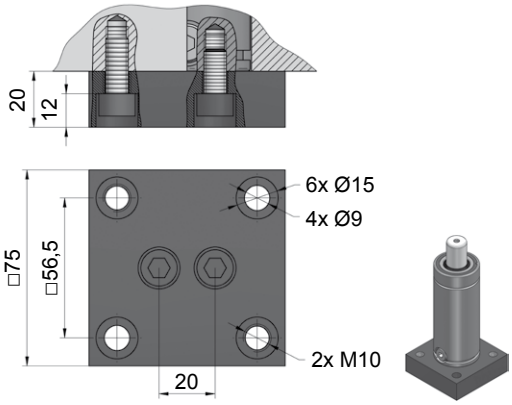
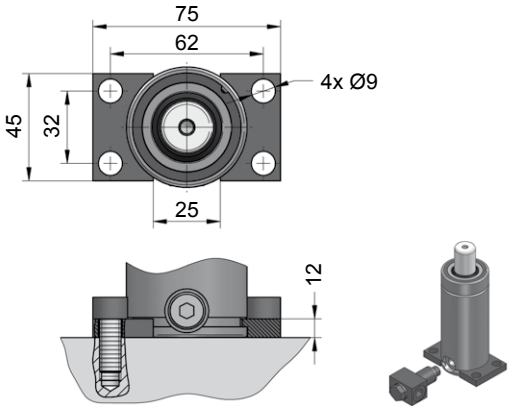


NC.88.00.050.0276



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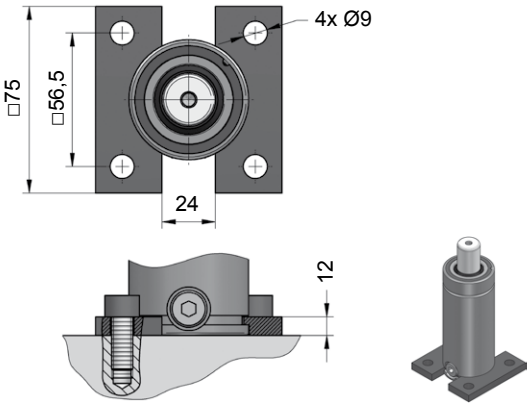

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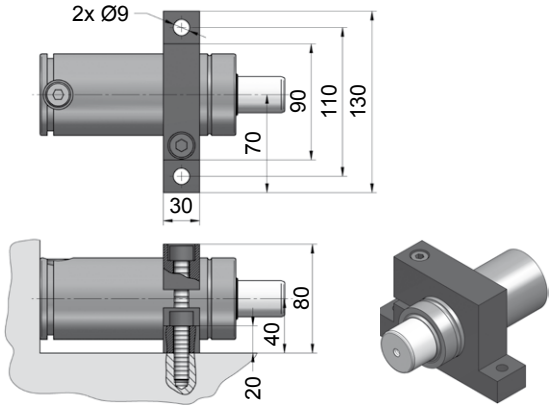
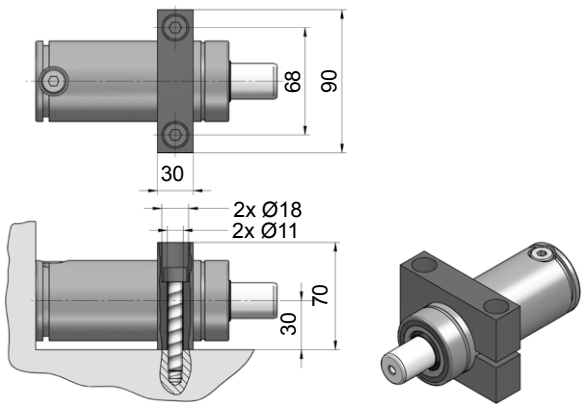


NC.88.00.050.0402



NC.88.00.050.0467

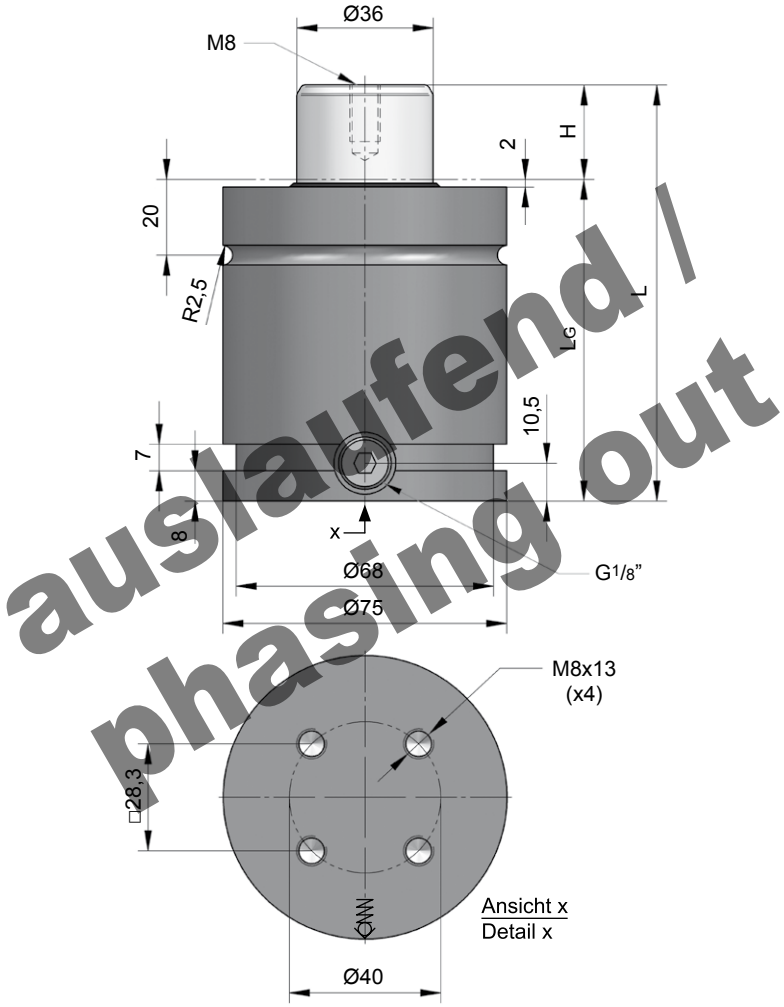
NC.060.09.01500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

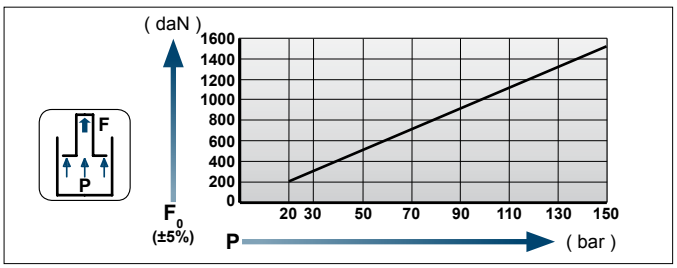
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

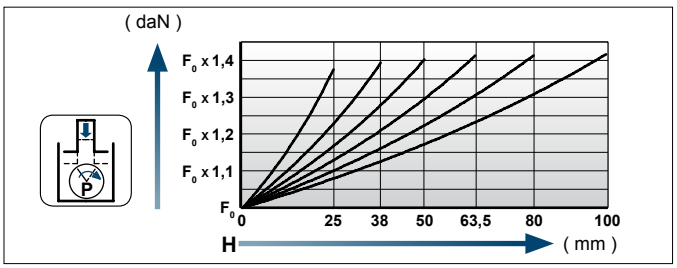


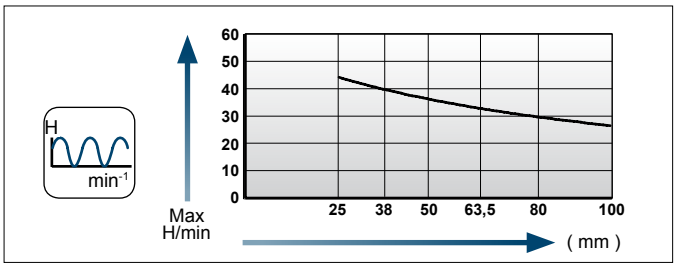
auslaufend / phasing out

NC.060.09.01500.038

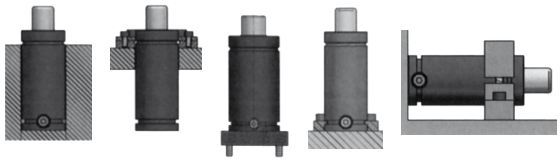
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	110	85	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	136	98	1530	
050	160	110	1530	
063,5	187	123,5	1530	
080	220	140	1530	
100	260	160	1530	



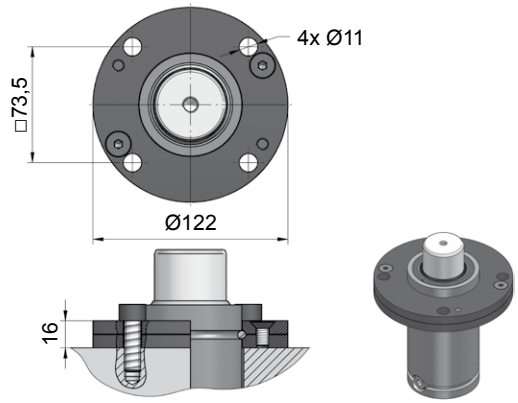




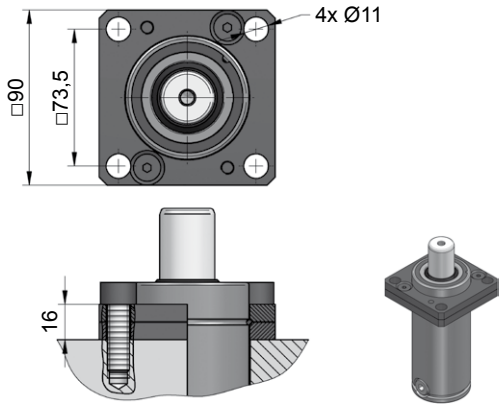
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.09.01500**



NC.88.00.075.0114



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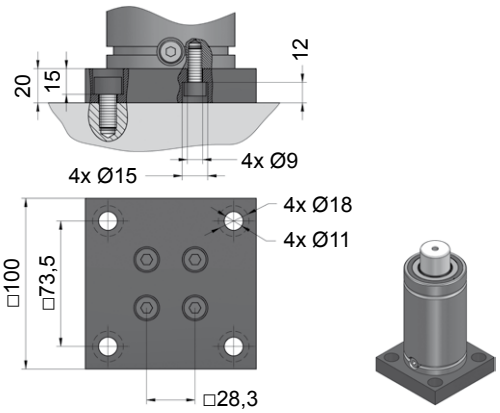
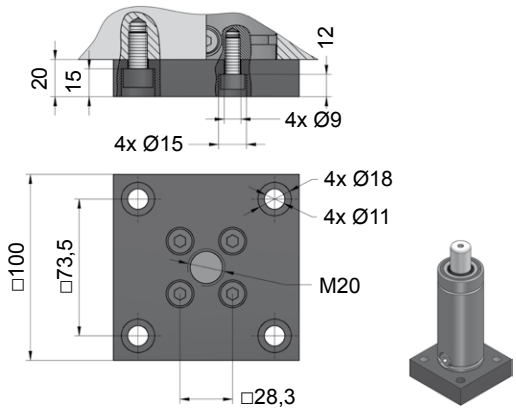


NC.88.00.075.0221



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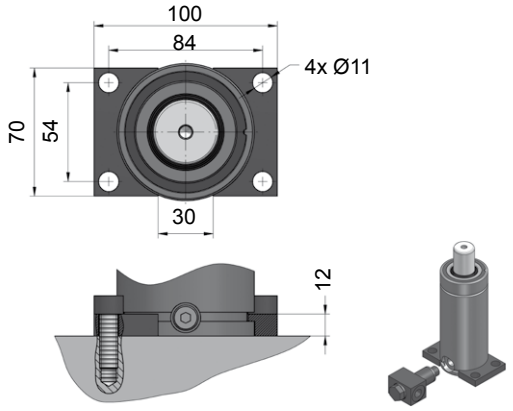

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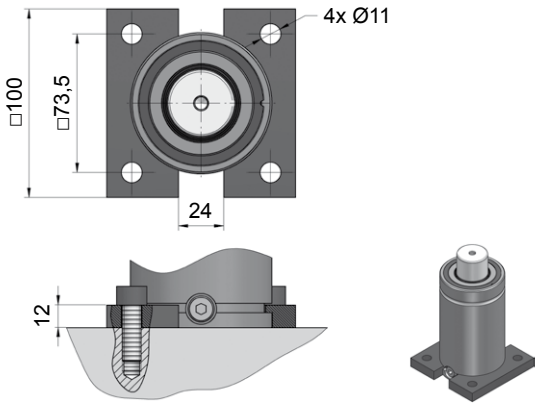

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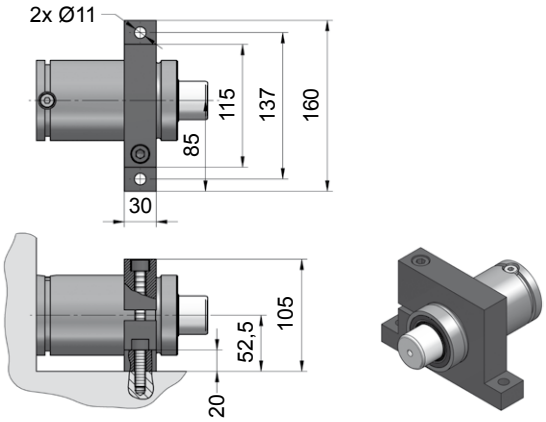

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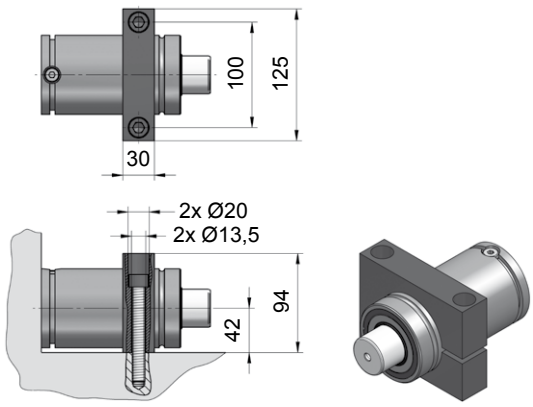


NC.88.00.075.0467

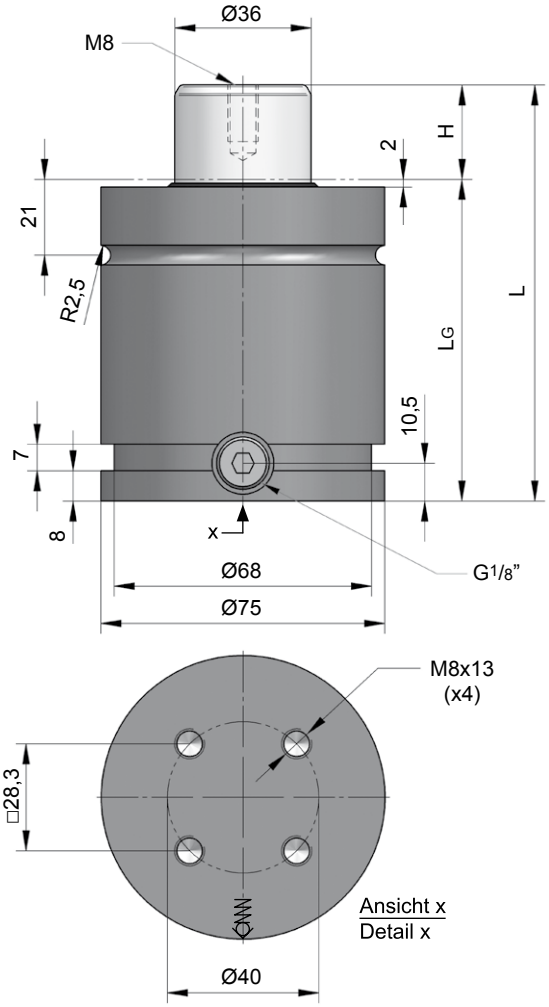
NC.060.09.01500...1

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

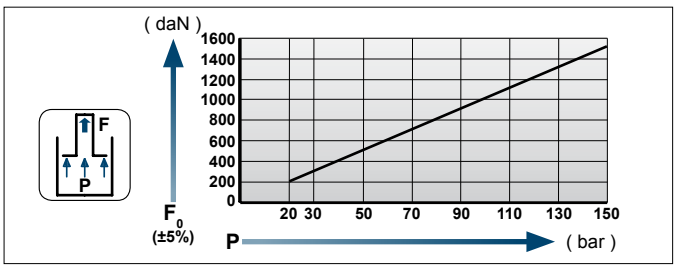
Specifications:

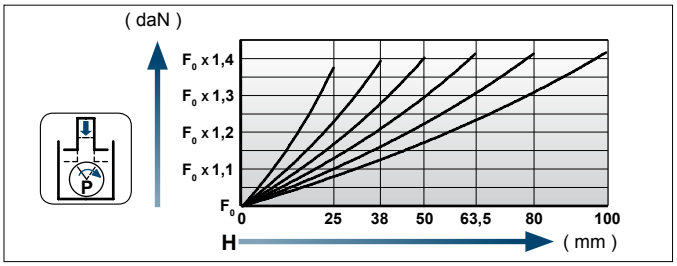
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

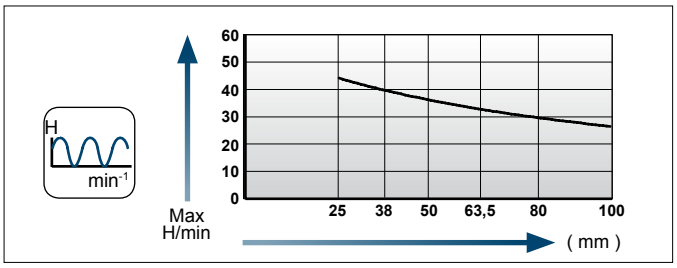


NC.060.09.01500.038.1

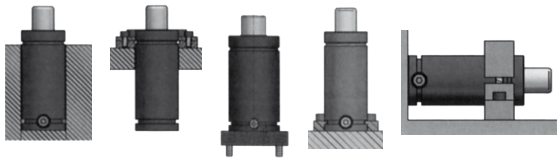
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	110	85	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	136	98	1530	
050	160	110	1530	
063,5	187	123,5	1530	
080	220	140	1530	
100	260	160	1530	





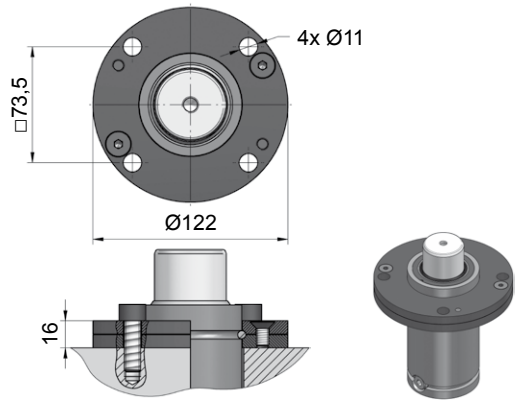


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.060.09.01500…1**



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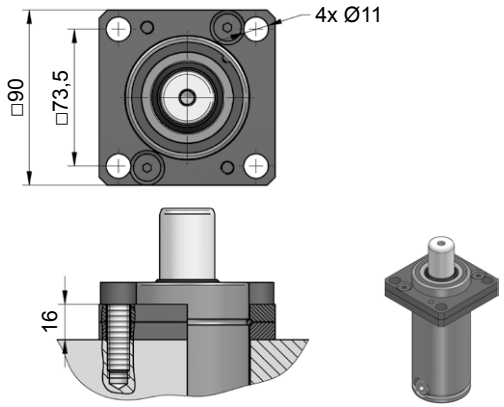

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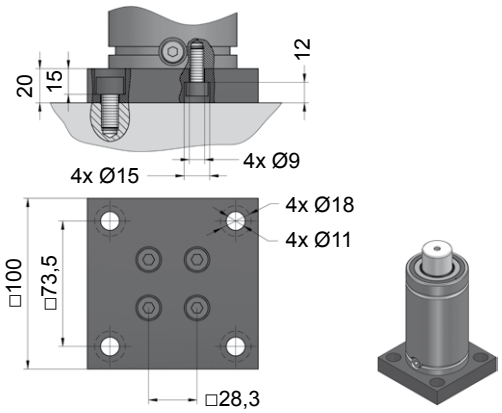

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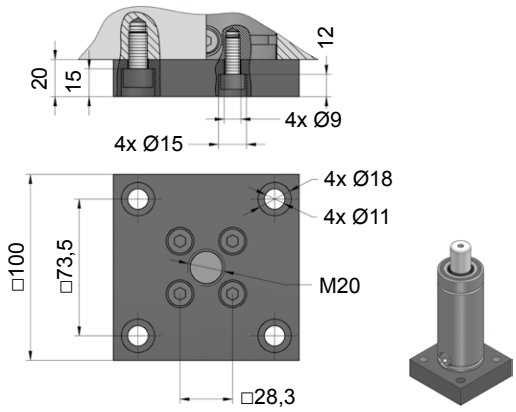

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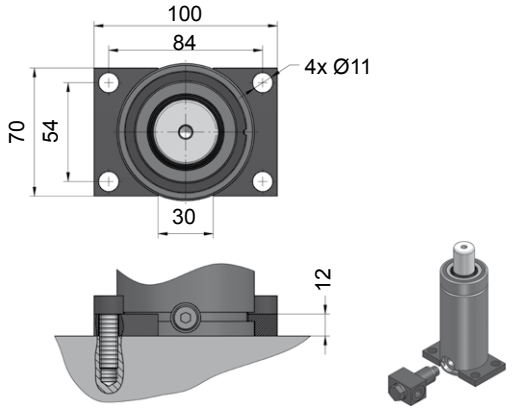

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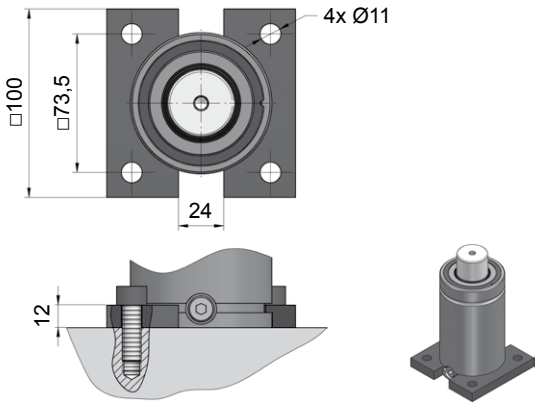

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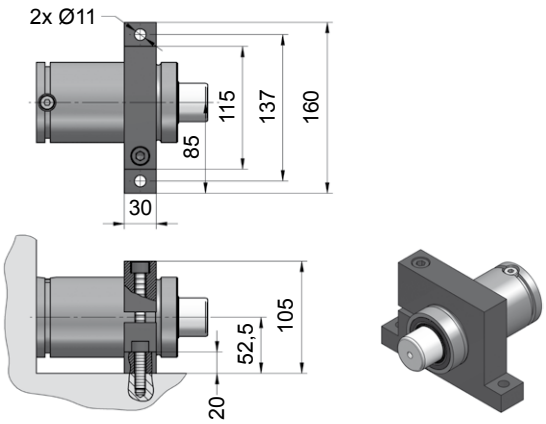

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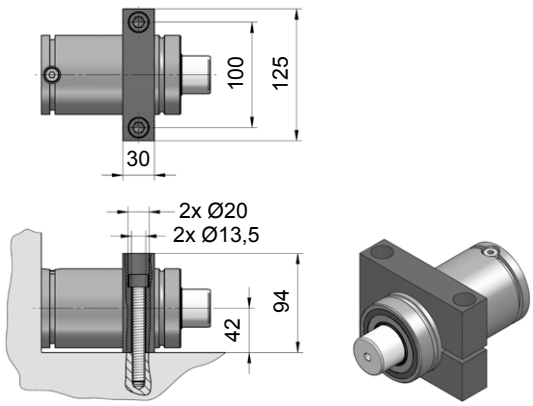


NC.88.00.075.0467

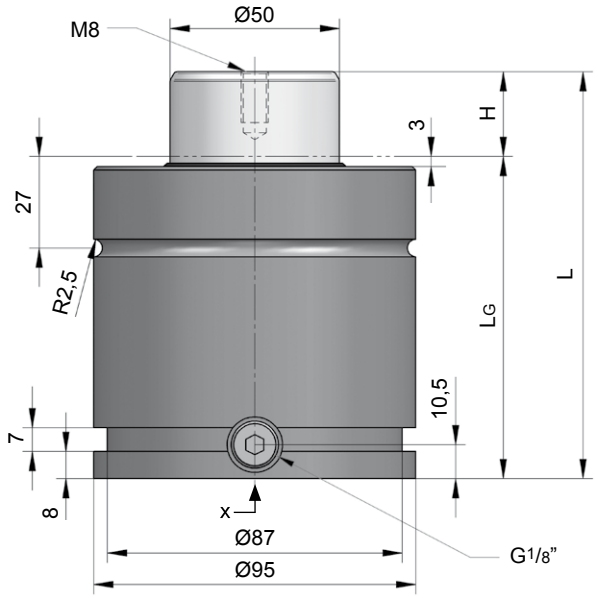
NC.060.09.03000

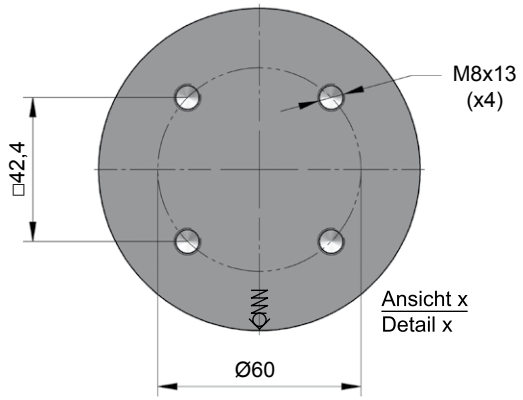
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

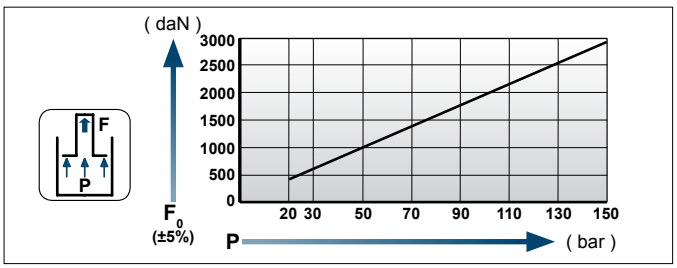
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

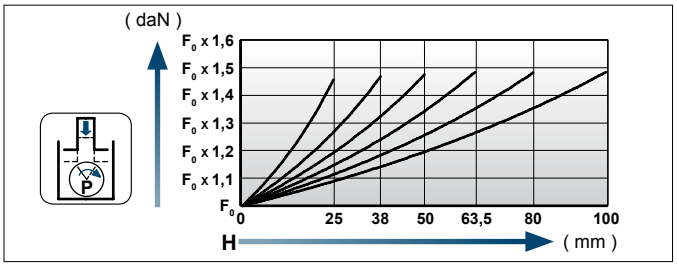


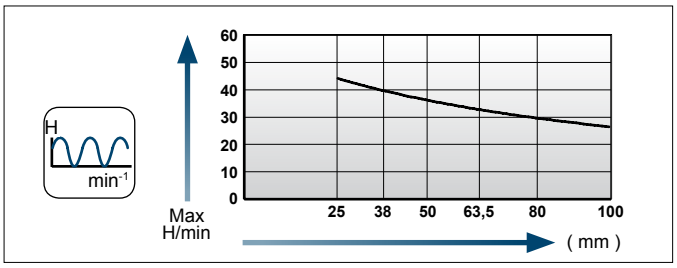


NC.060.09.03000.050

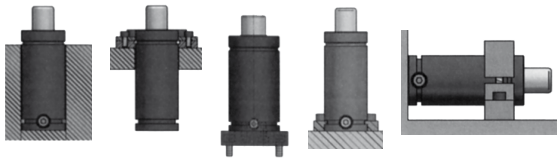
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	120	95	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	146	108	2945	
050	170	120	2945	
063,5	197	133,5	2945	
080	230	150	2945	
100	270	170	2945	



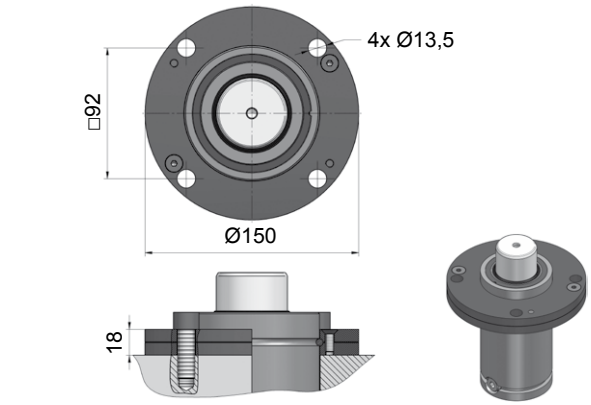




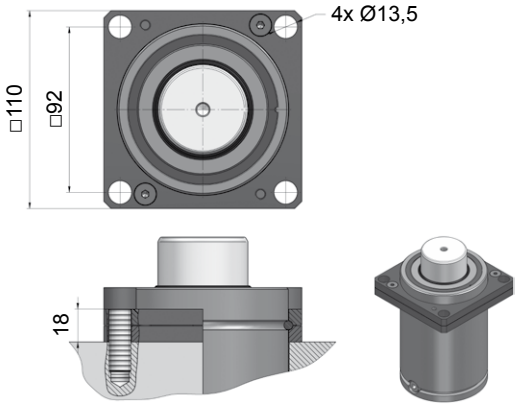
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.09.03000**



NC.88.00.095.0114



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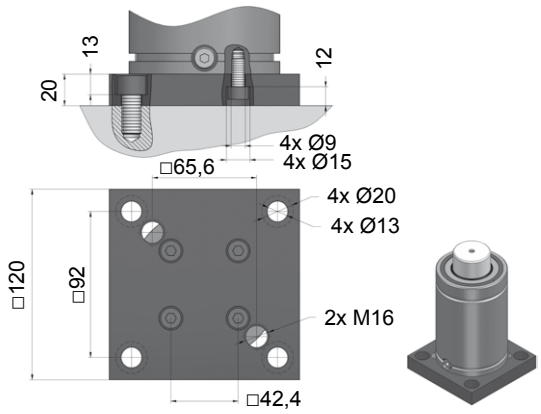

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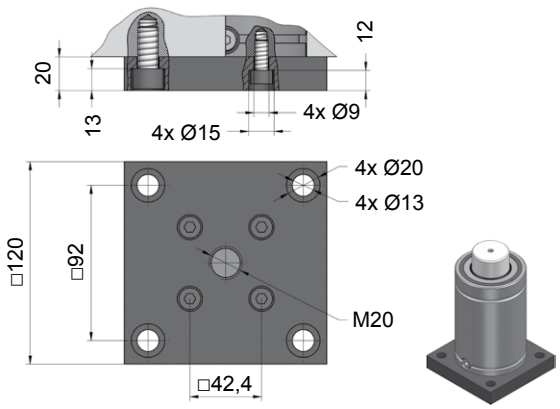

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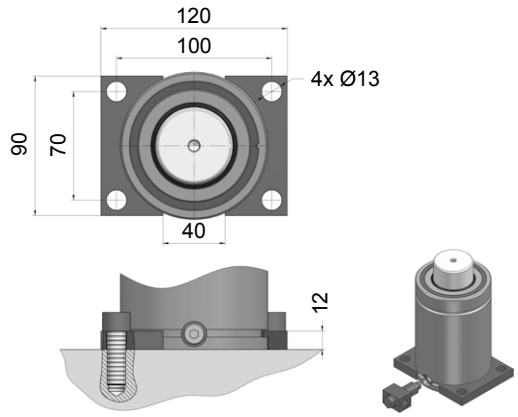

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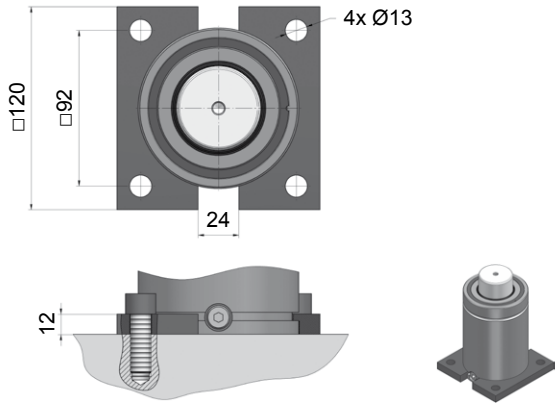

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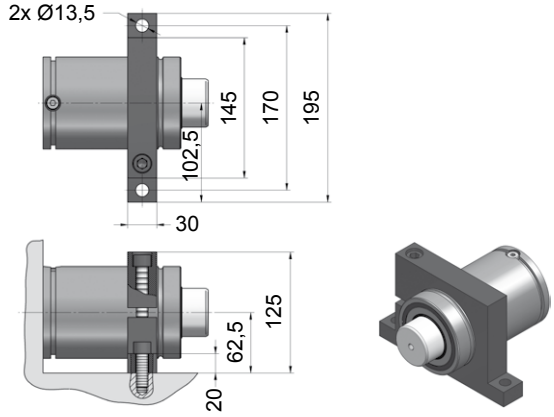

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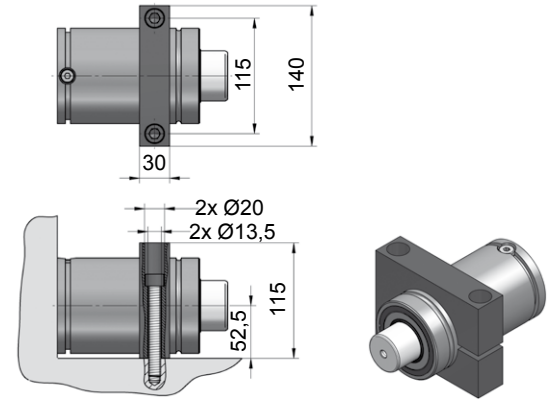


NC.88.00.095.0467

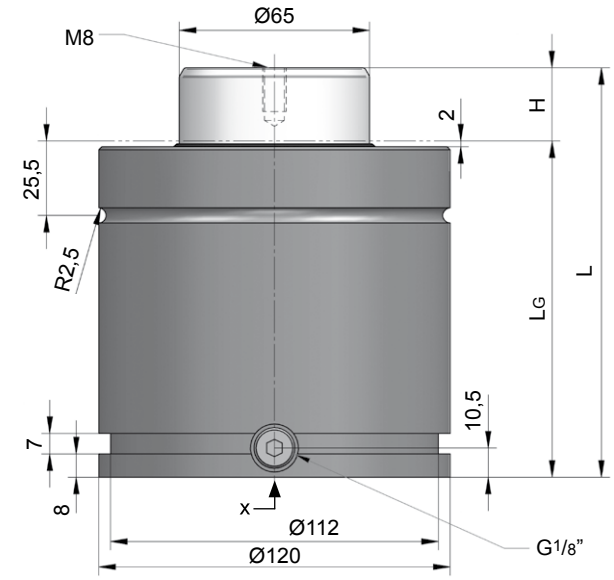
NC.060.09.05000

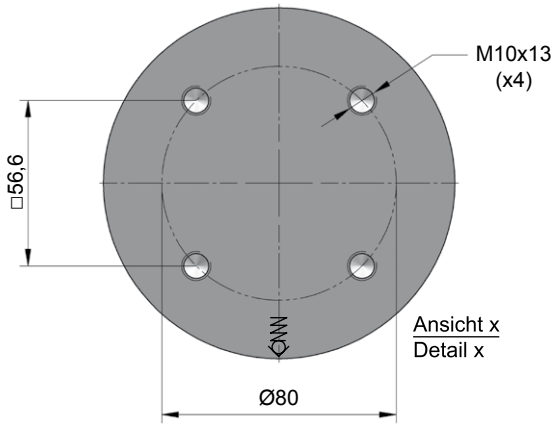
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

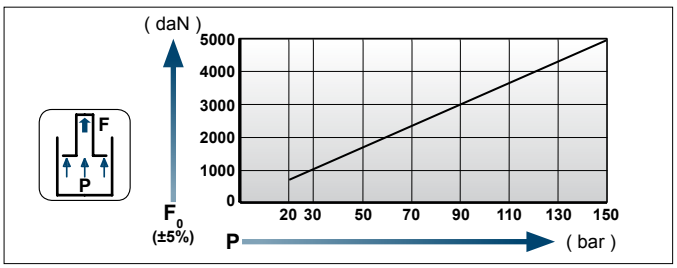
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

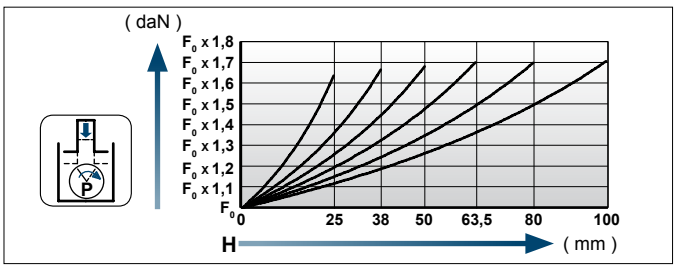


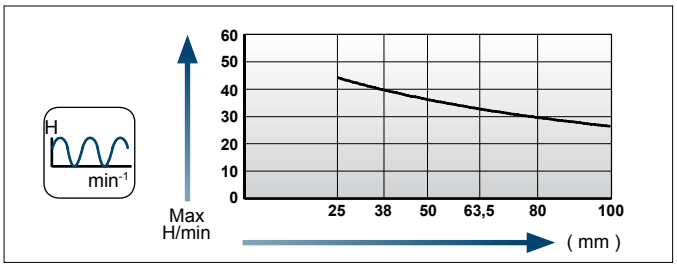


NC.060.09.05000.080

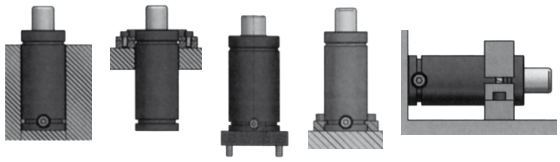
H Hub / Stroke	L ±0,5	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	140	115	4980	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	166	128	4980	
050	190	140	4980	
063,5	217	153,5	4980	
080	250	170	4980	
100	290	190	4980	



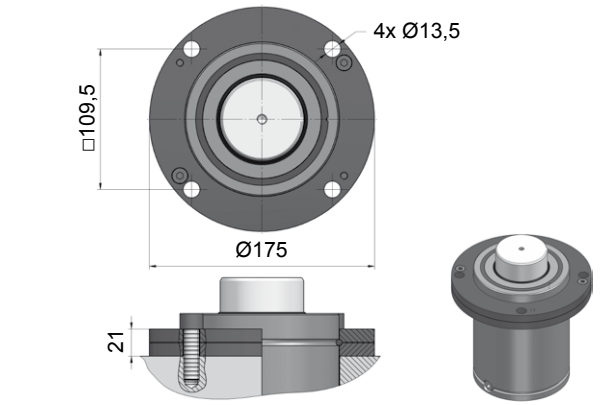




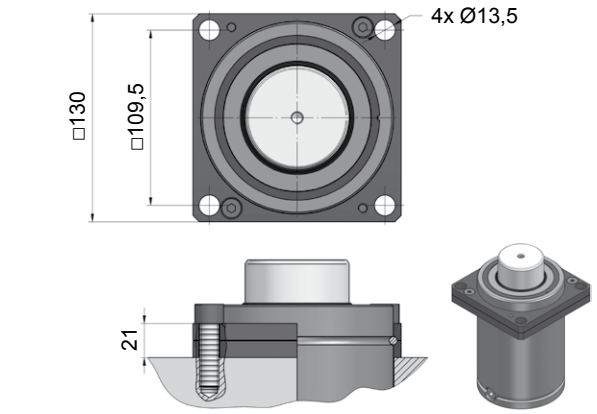
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.09.05000**



NC.88.00.120.0114



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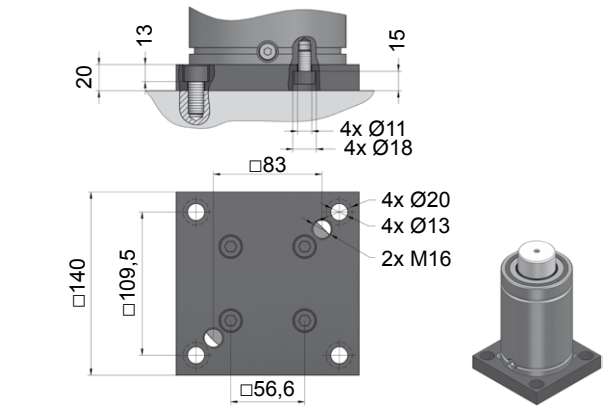

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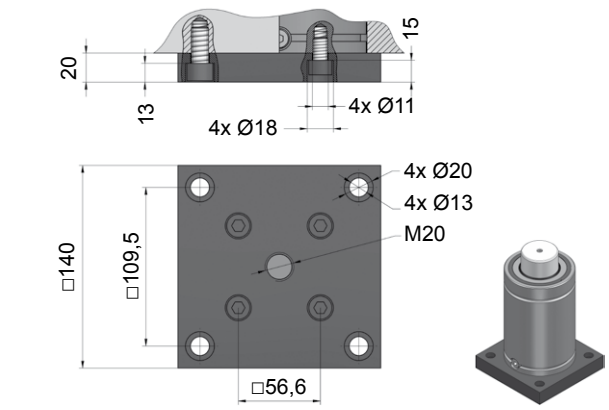

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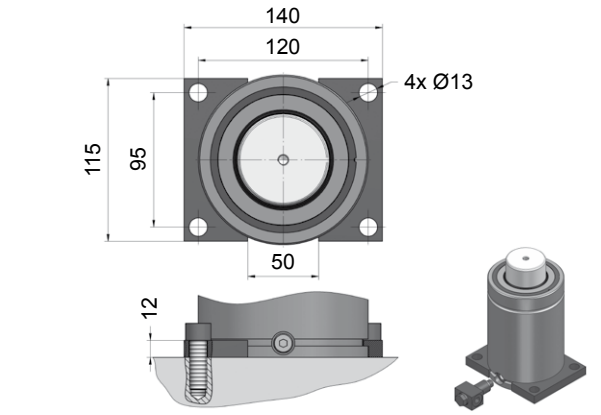

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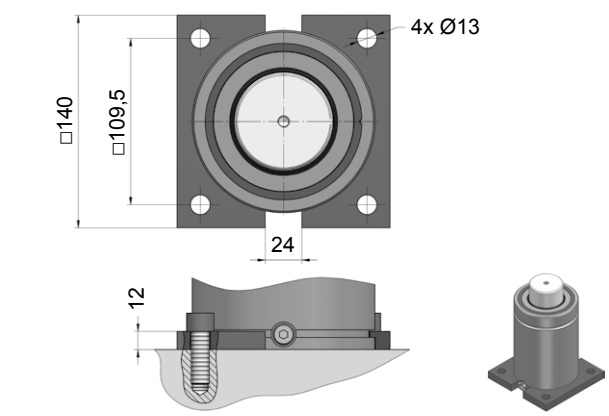

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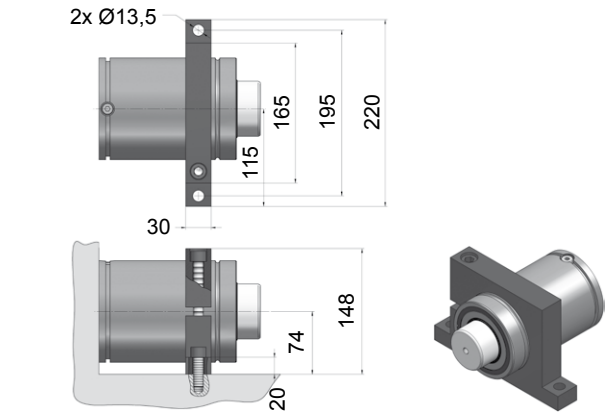

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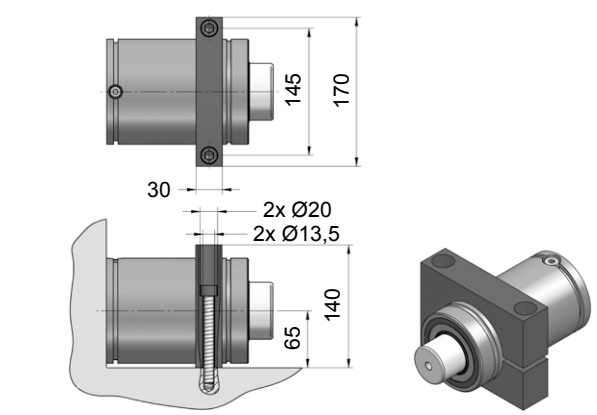


NC.88.00.120.0467

Technische Information Serie NC.060.10

Die Gasdruckfedern der Serie **NC.060.10** sind zusätzlich zur Standard- auch in folgenden Sonderausführungen erhältlich:

Version V = High Speed

Version B = Doppelanschluss

Die Versionen sind frei kombinierbar. Die Standard-Bestellnummer muss um den bzw. die Versionsbuchstaben ergänzt werden.

Technical information NC.060.10 series

The **NC.060.10**-gas springs are not only available as standards, but with the following features as well:

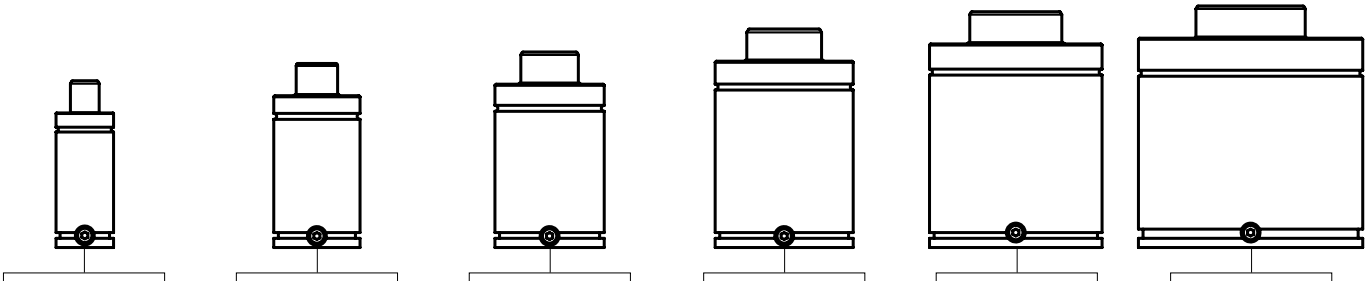
Version V = High Speed

Version B = with double connecting ports

You may combine these features as desired.
Please add the corresponding letter to the order number.

Größenübersicht Serie NC.060.10

Gas spring index 060.10 series



NC.060.10.00750	NC.060.10.01500	NC.060.10.03000	NC.060.10.05000	NC.060.10.07500	NC.060.06.10000
740 daN	1530 daN	2945 daN	4980 daN	7540 daN	10280 daN
12,7 - 300 mm	12,7 - 300 mm	12,7 - 300 mm	12,7 - 300 mm	12,7 - 300 mm	12,7 - 300 mm
Ø50	Ø75	Ø95	Ø120	Ø150	Ø195

Serie NC.060.10
Version V

Die Gasdruckfedern der Serie **NC.060.10** sind in der High-Speed-Version mit einem Spezial-Dichtungs-System ausgestattet, welches eine maximalen Kolbengeschwindigkeit von 2 m/s ermöglicht.

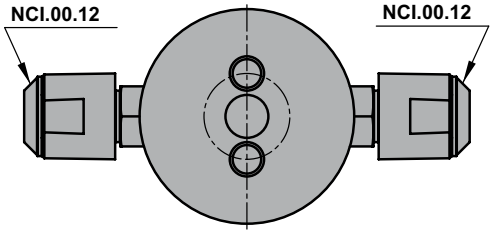
NC.060.10 series
Version V

The **NC.060.10**-gas springs are - by utilizing special seals - available in a „High Speed“ - version as well.
By this means the maximum rod-speed from 2 m/s is possible.

Serie NC.060.10
Version B

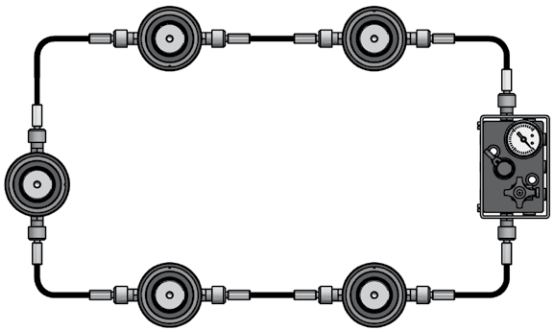
Die Gasdruckfedern der Serie **NC.060.10** besitzen in der Version B zwei Anschlüsse G1/8“. Ausgestattet mit zwei Anschlussstücken wird die Verschlauchung im System erheblich vereinfacht. Die Gasdruckfedern können aber auch mit anderen Anschlussstücken (siehe Zubehör) versehen werden.

Vorschlag / Proposal



NC.060.10 series
Version B

The **NC.060.10**-gas springs of this version are designed with two (!) G1/8“ - connection threads.
Using two adapters simplifies the connection of the springs with hoses significantly.
Other adapters may be used as well.



NC.060.10.00750

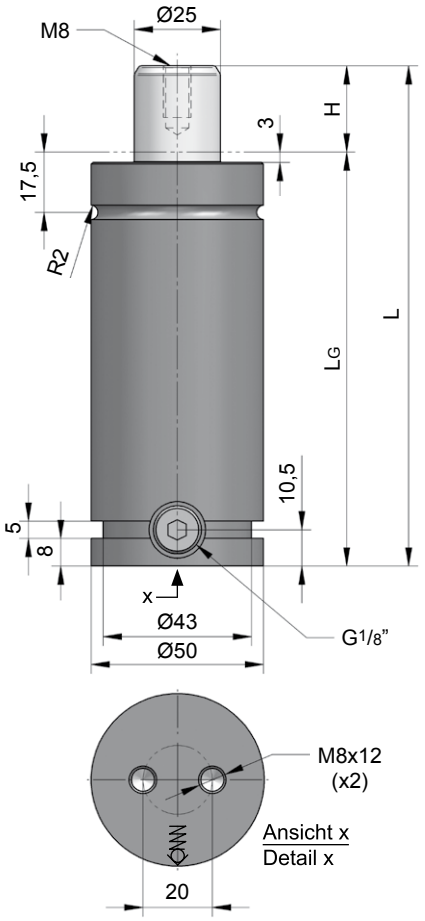
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s
Version V:	2 m/s

Specifications:

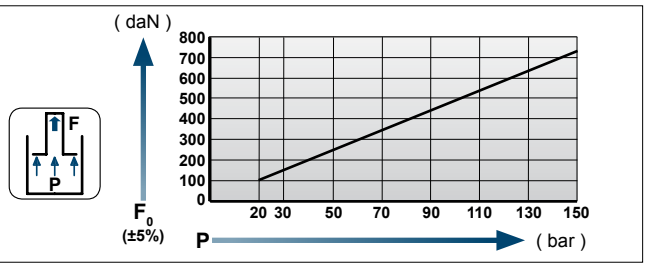
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s
Version V:	2 m/s

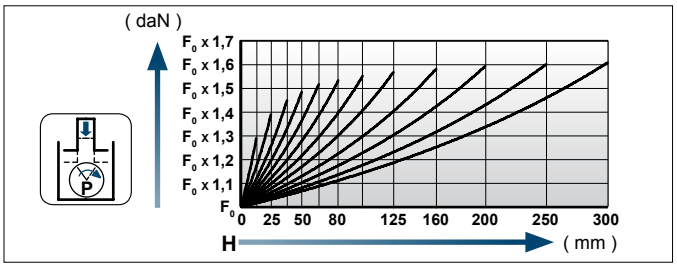
INFO [NC.060.23]

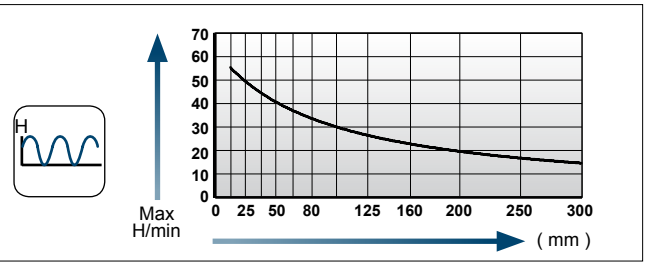


NC.060.10.□□.
00750.100

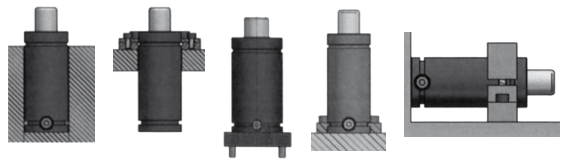
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	120,4	107,7	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	145	120	740	
038	171	133	740	
050	195	145	740	
063,5	222	158,5	740	
080	255	175	740	
100	295	195	740	
125	345	220	740	
160	415	255	740	
200	495	295	740	
250	595	345	740	
300	695	395	740	





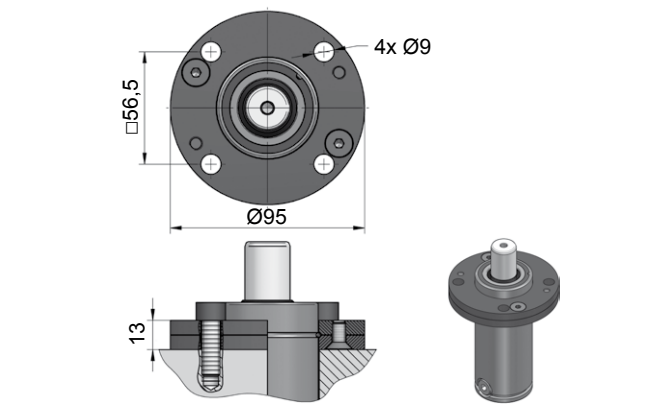


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.060.10.00750**



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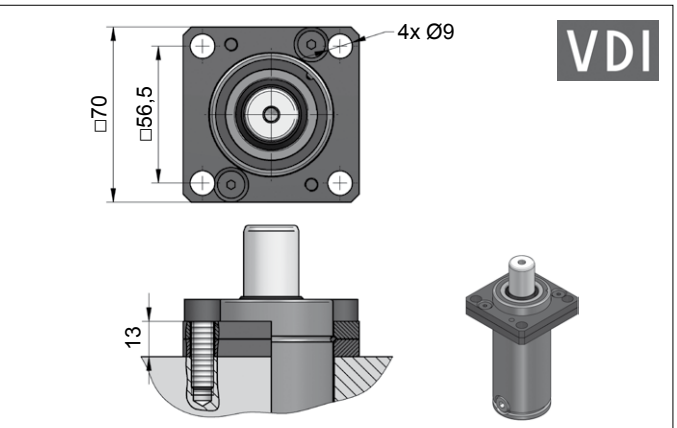

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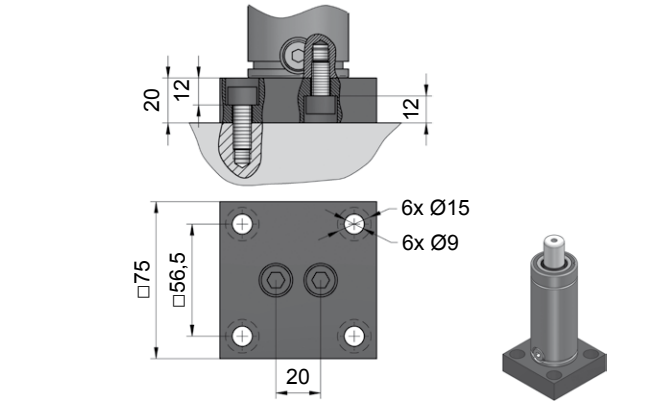

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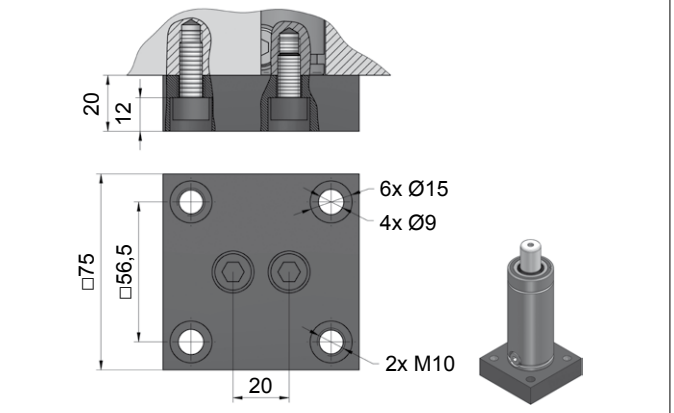

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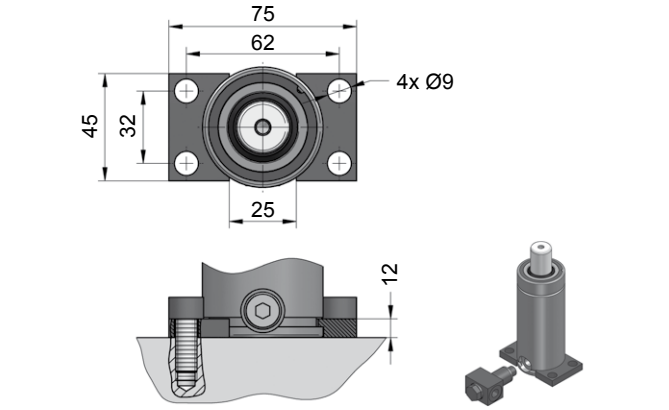

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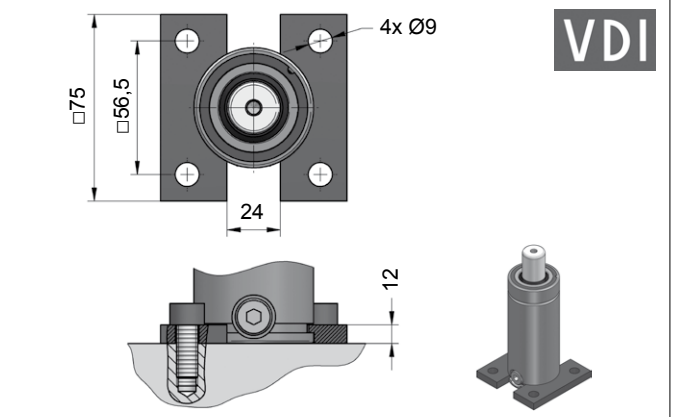

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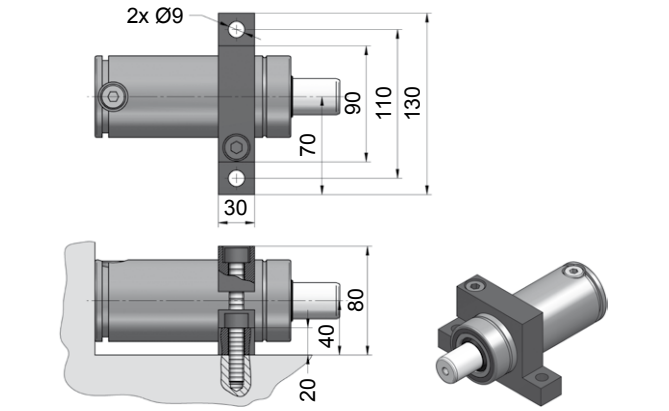

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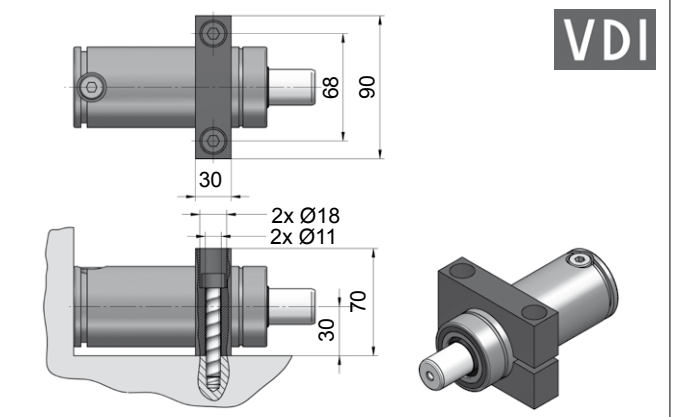


NC.88.00.050.0467

NC.060.10.01500

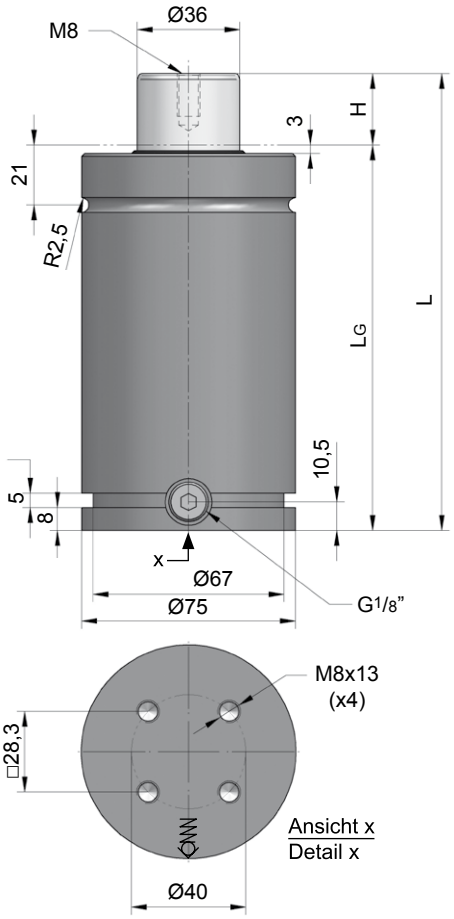
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s
Version V:	2 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s
Version V:	2 m/s

INFO [NC.060.23]



NC.060.10.□□.
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H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	135,4	122,7	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	160	135	1530	
038	186	148	1530	
050	210	160	1530	
063,5	237	173,5	1530	
080	270	190	1530	
100	310	210	1530	
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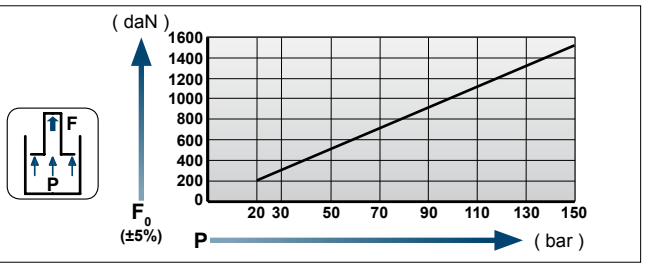
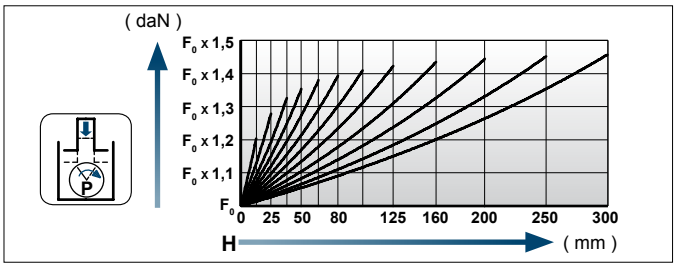
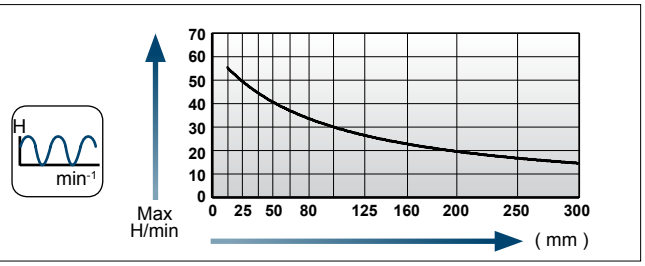
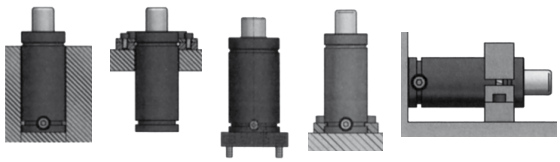
160	430	270	1530	
200	510	310	1530	
250	610	360	1530	
300	710	410	1530	



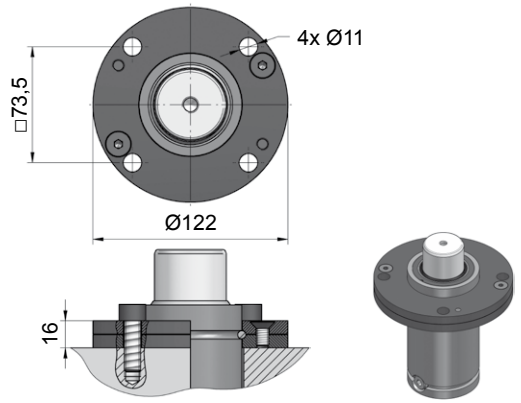




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.10.01500**



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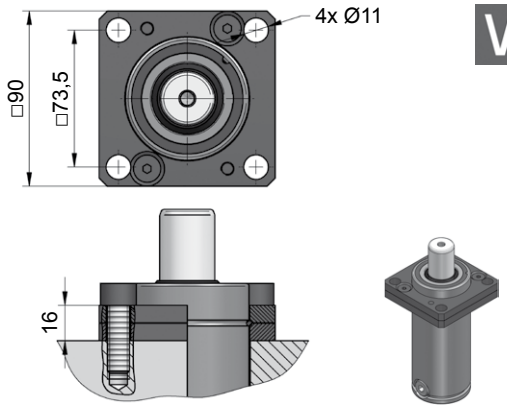

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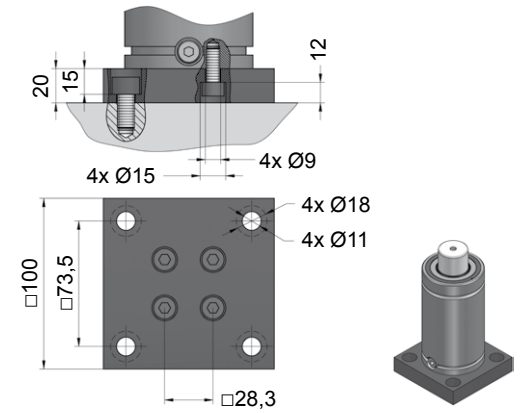

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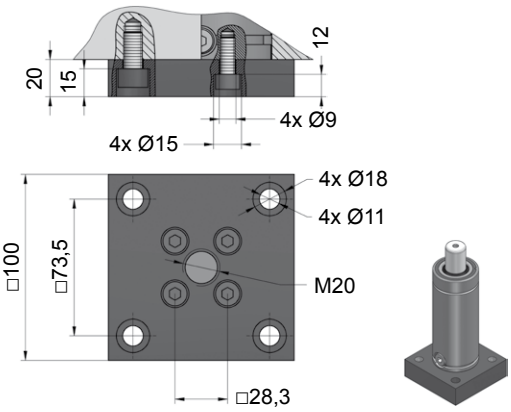

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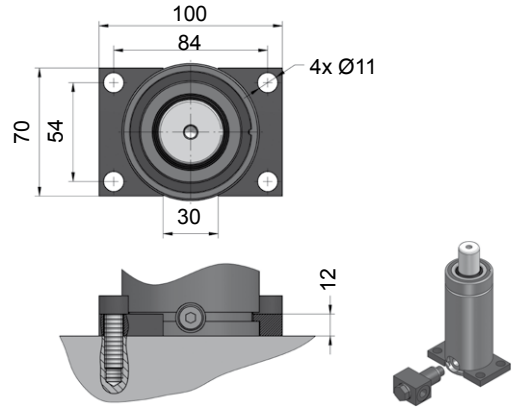

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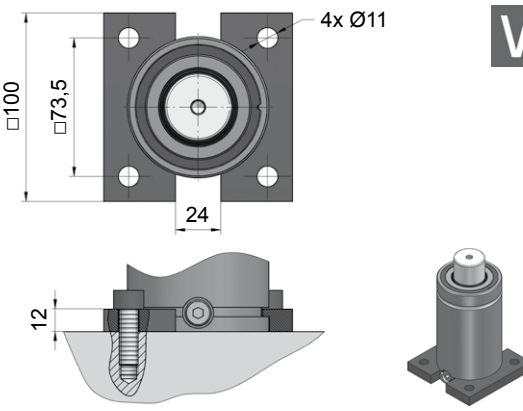

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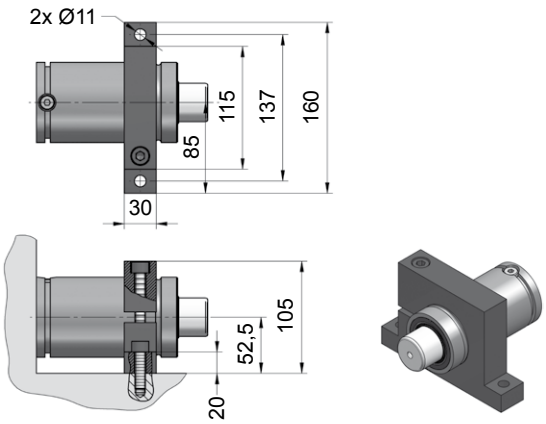

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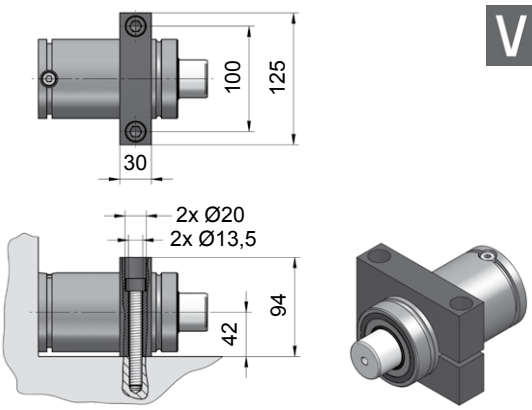


NC.88.00.075.0467

NC.060.10.03000

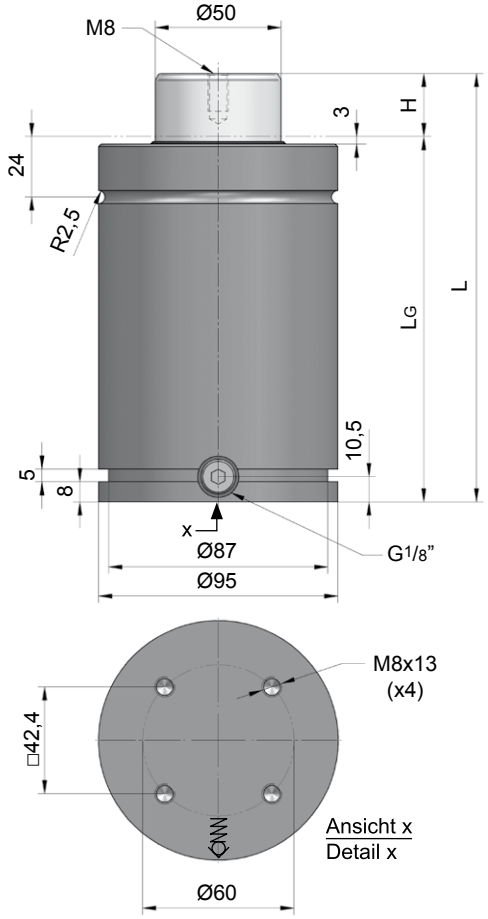
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s
Version V:	2 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s
Version V:	2 m/s

INFO [NC.060.23]



NC.060.10.□□.
03000.100

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	 Ende / Final [daN]
012,7	145,4	132,7	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	170	145	2945	
038	196	158	2945	
050	220	170	2945	
063,5	247	183,5	2945	
080	280	200	2945	
100	320	220	2945	
125	370	245	2945	
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250	620	370	2945	
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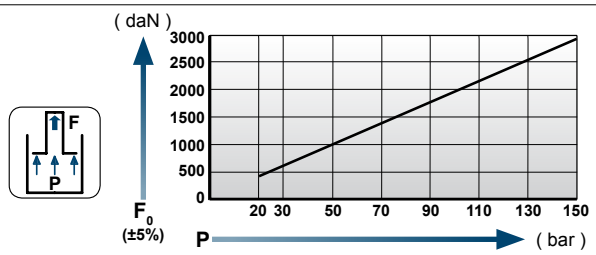
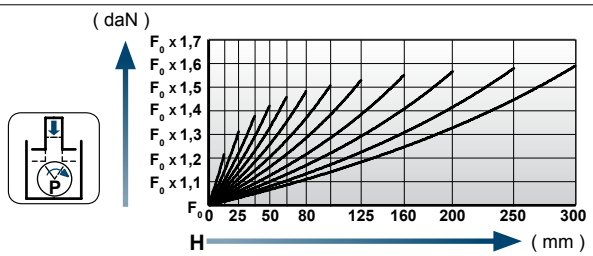
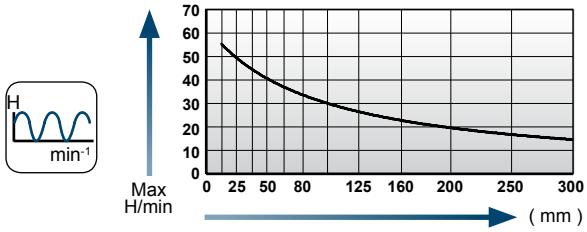
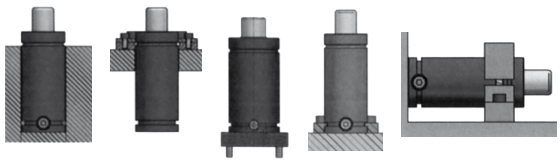


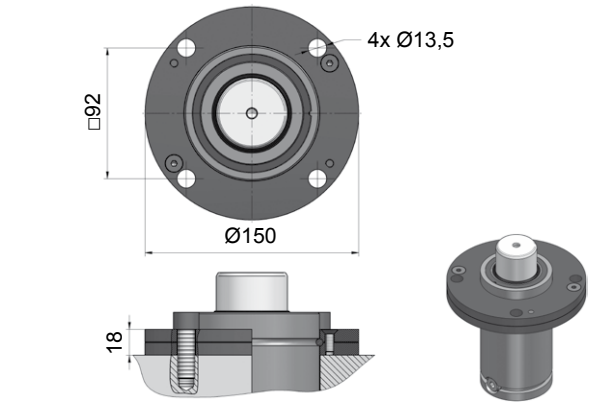




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.10.03000**



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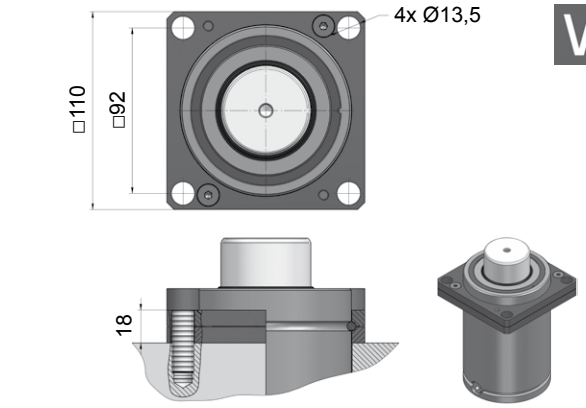

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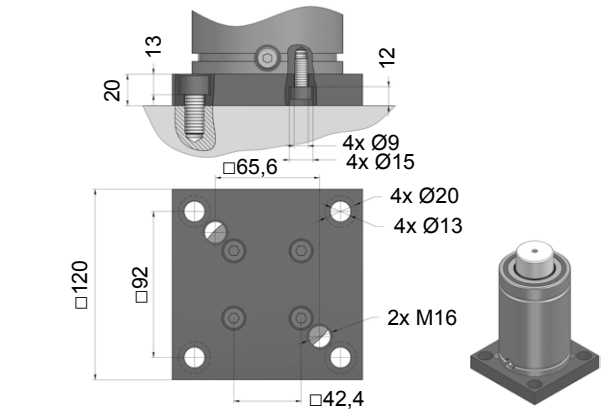
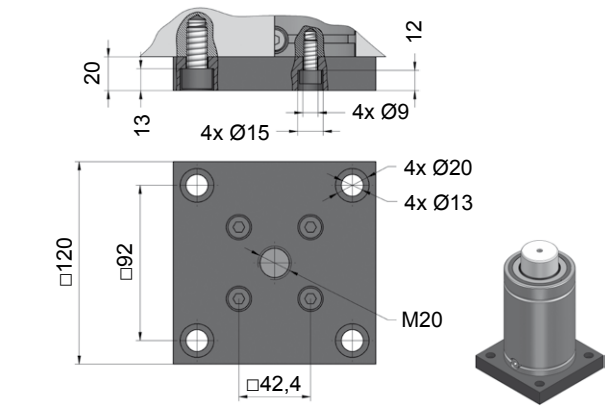


NC.88.00.095.0221



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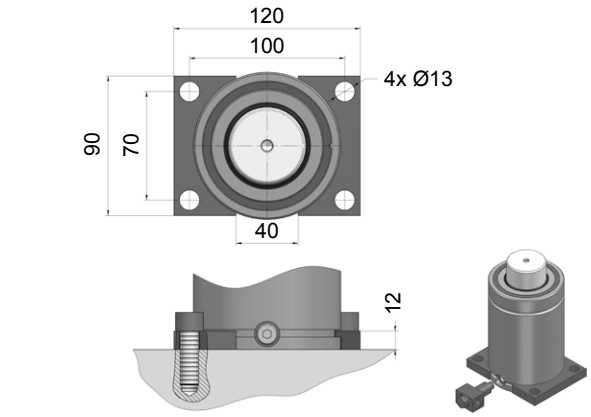
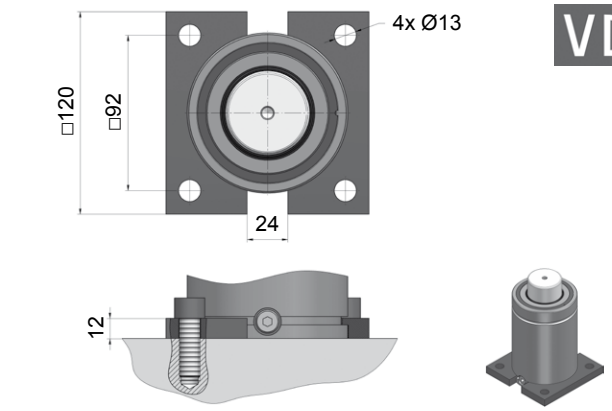
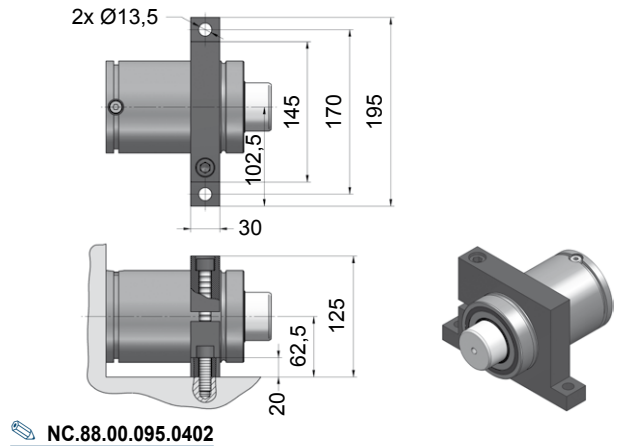


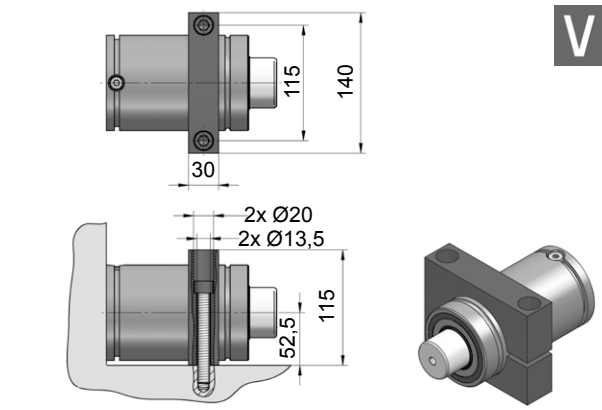
NC.88.00.095.0305



NC.88.00.095.0320



NC.88.00.095.0402



NC.88.00.095.0467

NC.060.10.05000

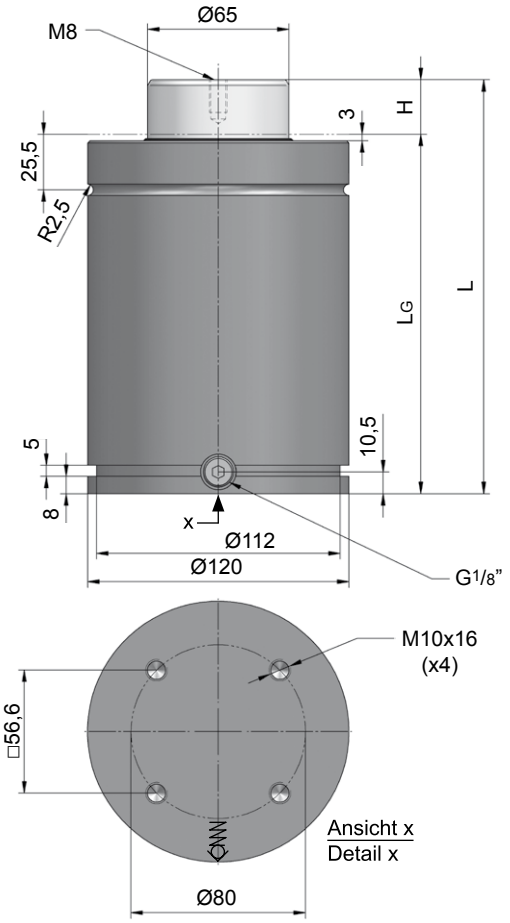
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s
Version V:	2 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s
Version V:	2 m/s

INFO [NC.060.23]



NC.060.10.□□.
05000.125

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	165,4	152,7	4980	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	190	165	4980	
038	216	178	4980	
050	240	190	4980	
063,5	267	203,5	4980	
080	300	220	4980	
100	340	240	4980	
125	390	265	4980	
160	460	300	4980	
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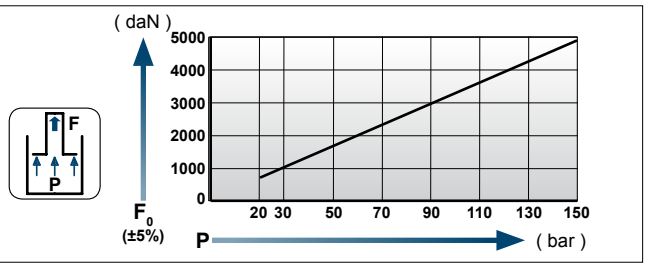
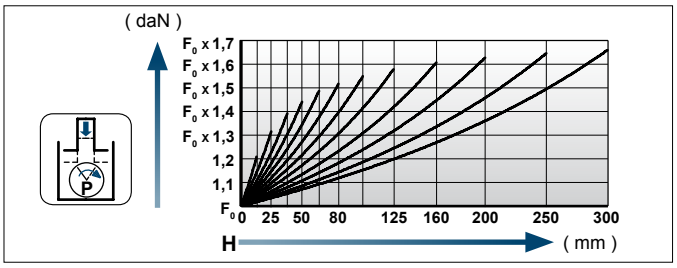
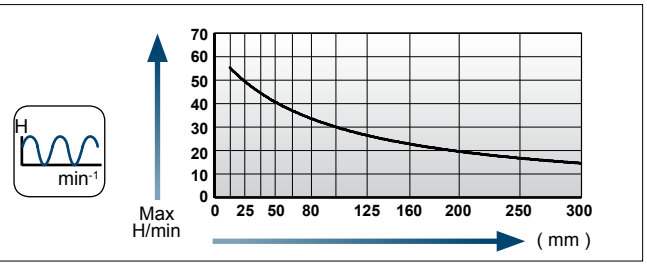
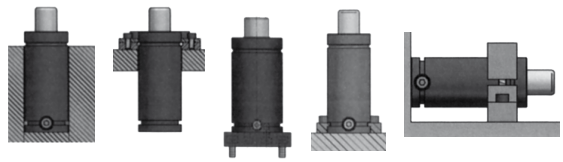
250	640	390	4980	
300	740	440	4980	



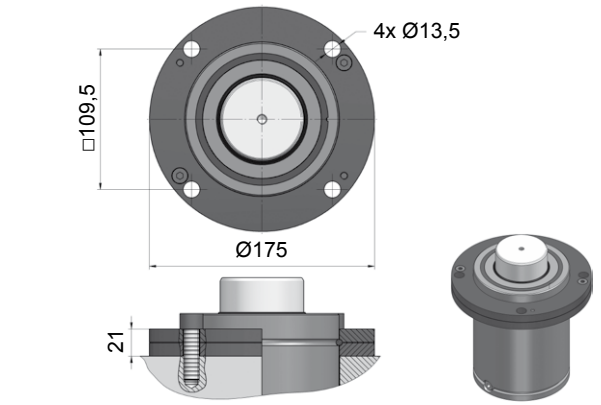




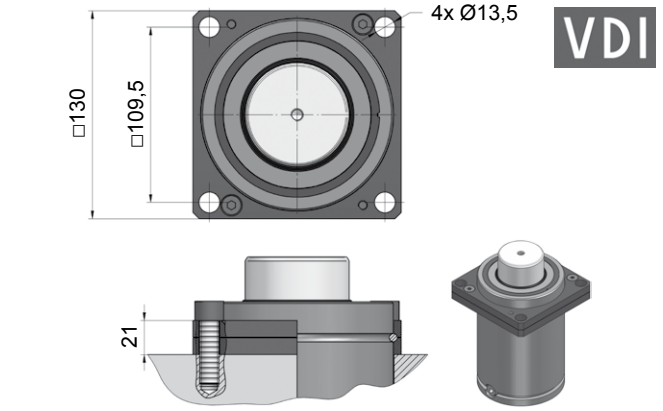
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.10.05000**



NC.88.00.120.0114



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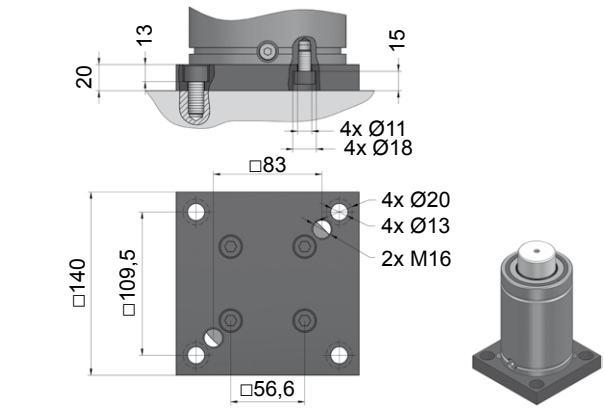
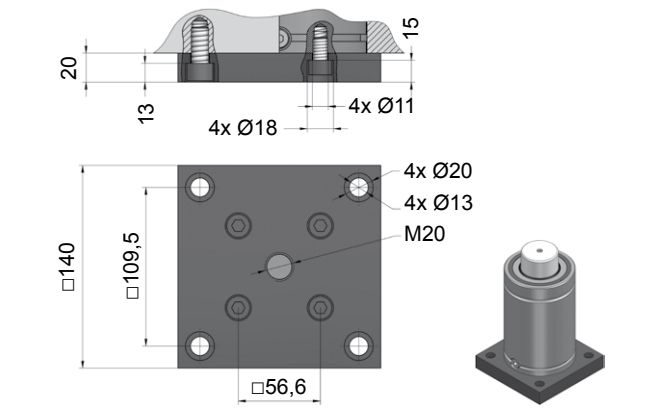


NC.88.00.120.0221



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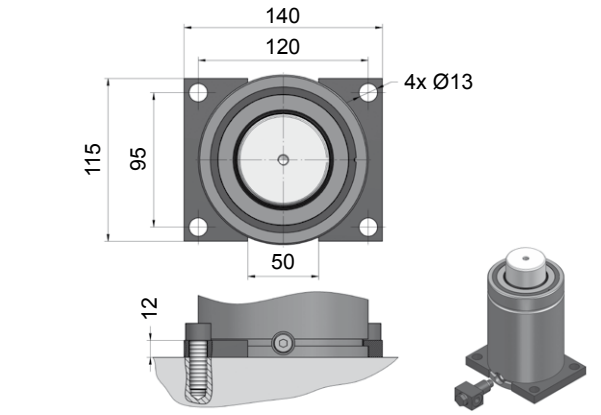
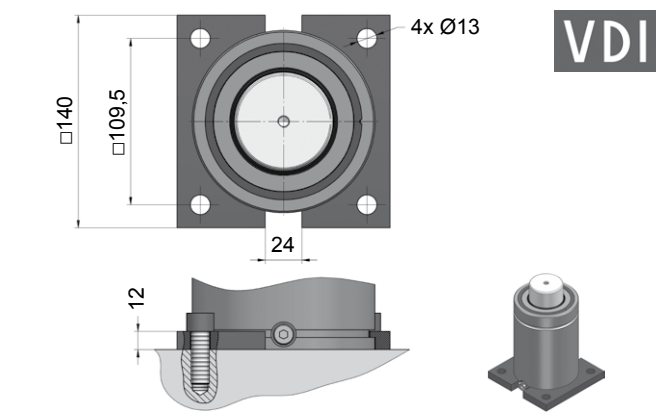
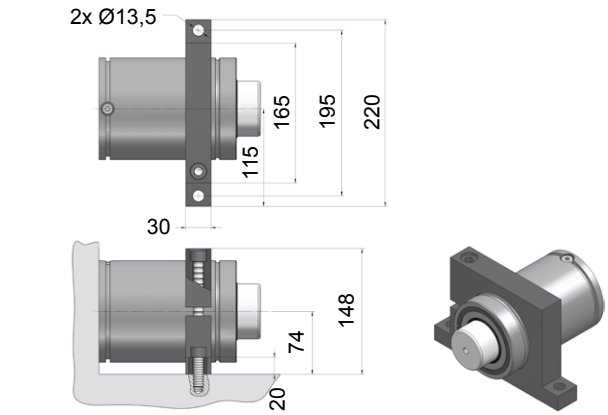


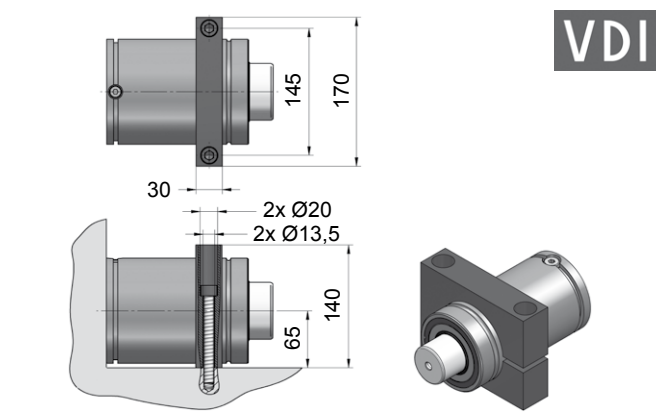
NC.88.00.120.0305



NC.88.00.120.0320



NC.88.00.120.0402



NC.88.00.120.0467

NC.060.10.07500

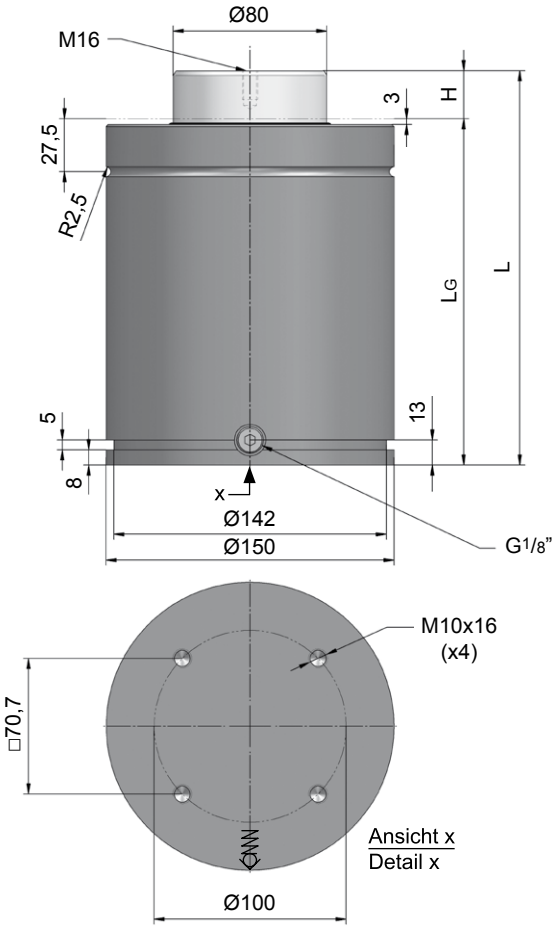
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s
Version V:	2 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s
Version V:	2 m/s

INFO [NC.060.23]



NC.060.10.□□.
07500.160

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	180,4	167,7	7540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	205	180	7540	
038	231	193	7540	
050	255	205	7540	
063,5	282	218,5	7540	
080	315	235	7540	
100	355	255	7540	
125	405	280	7540	
160	475	315	7540	
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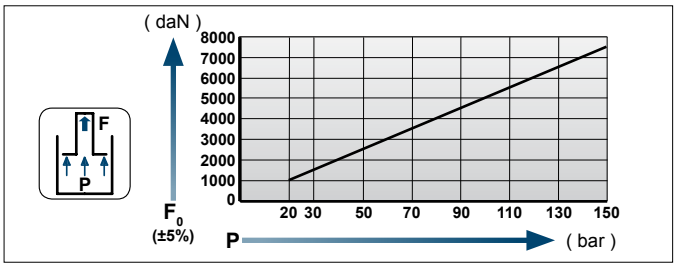
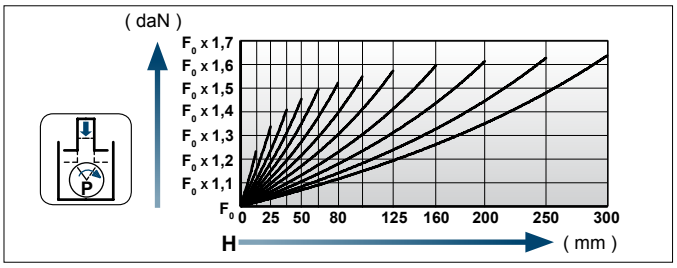
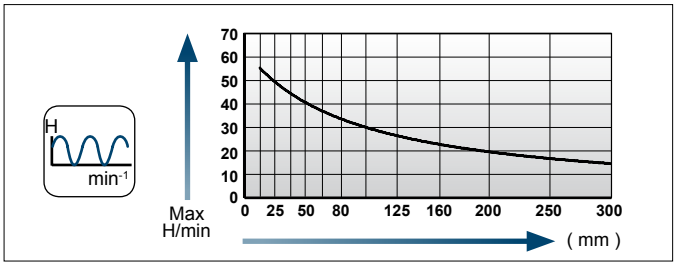
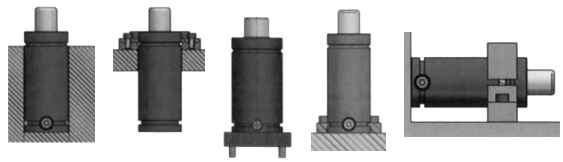
250	655	405	7540	
300	755	455	7540	





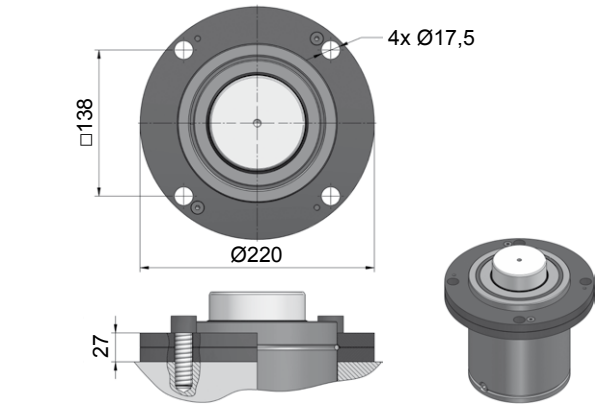


Einbaubeispiele / Flange mounting options

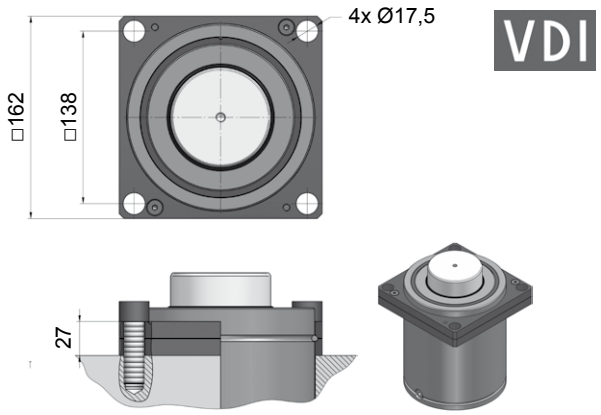


[NC]

Flansche für / Flanges for **NC.060.10.07500**



NC.88.00.150.0114



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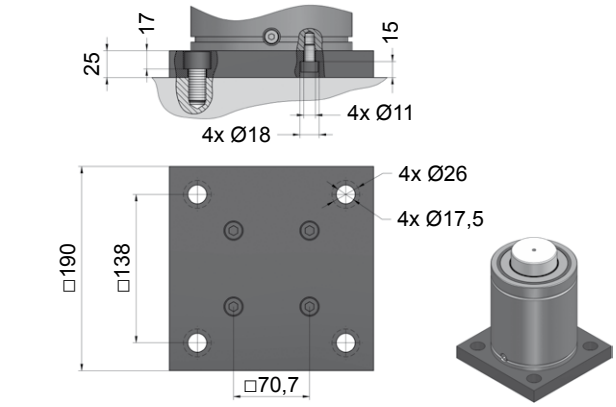

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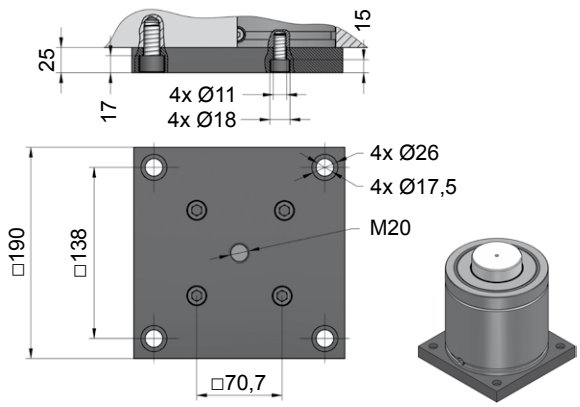

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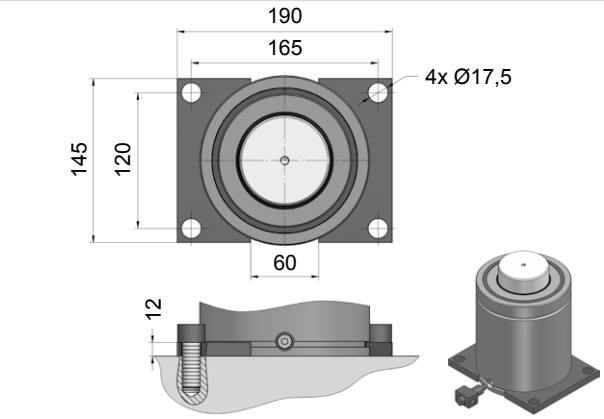

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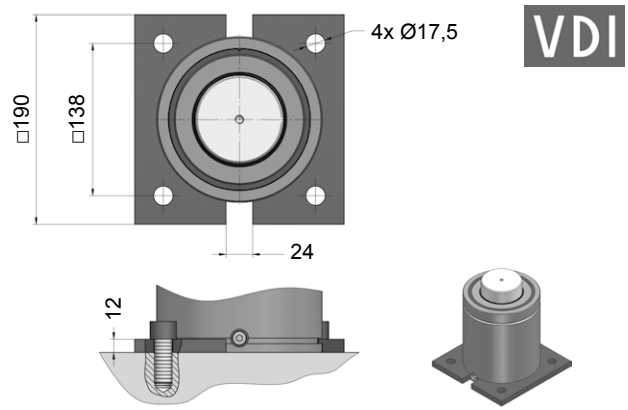
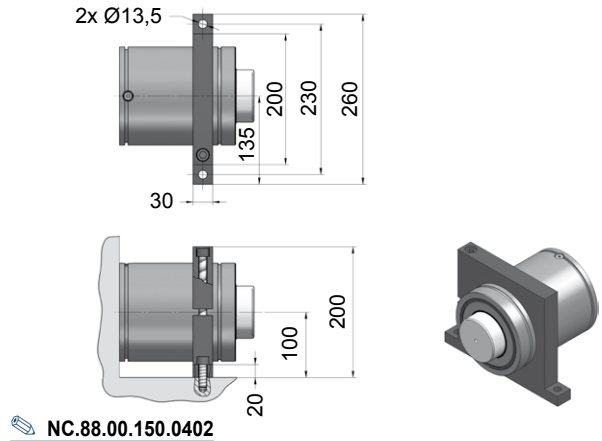


NC.88.00.150.0320



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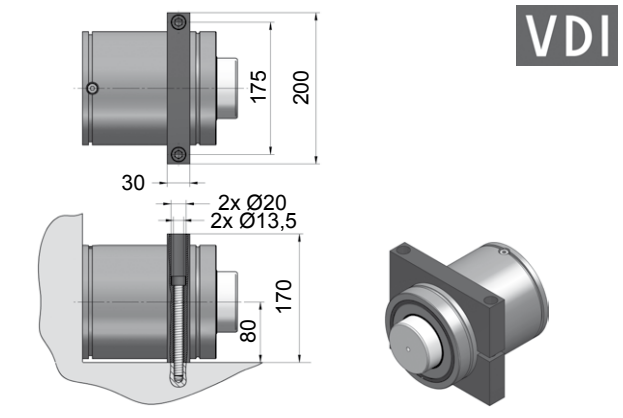


NC.88.00.150.0467

NC.060.10.10000

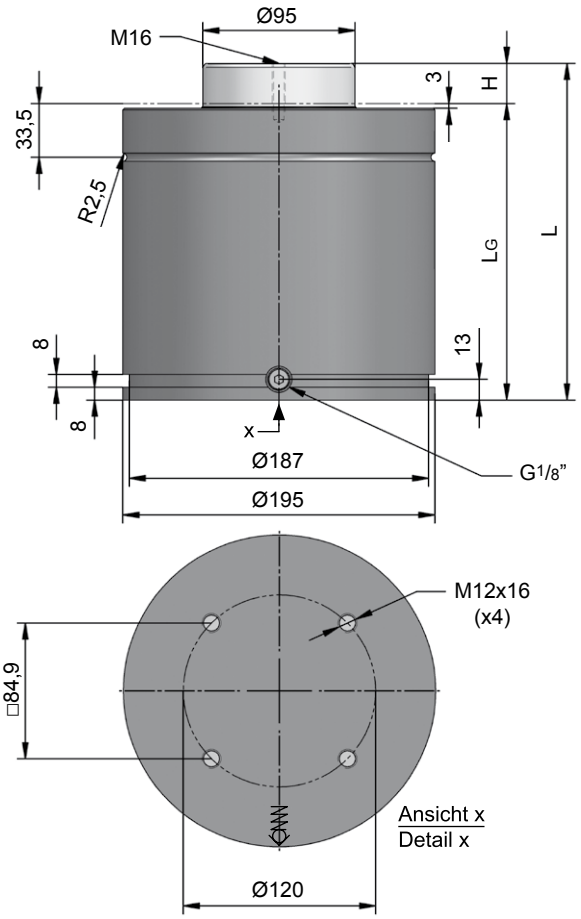
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s
Version V:	2 m/s

Specifications:

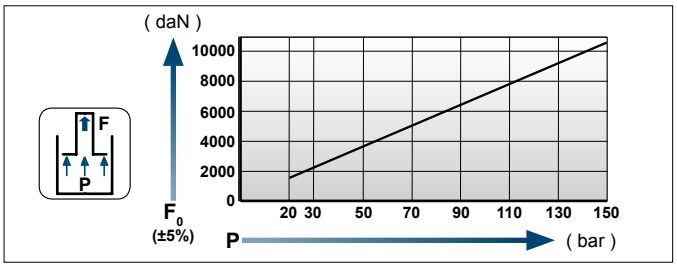
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s
Version V:	2 m/s

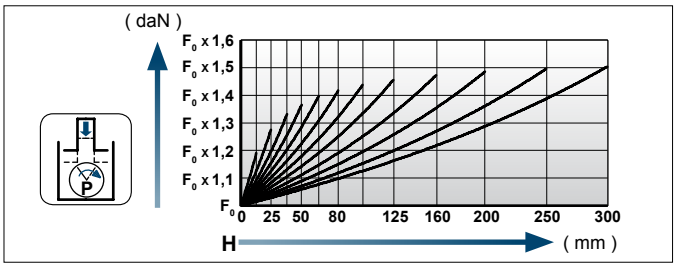
INFO [NC.060.23]

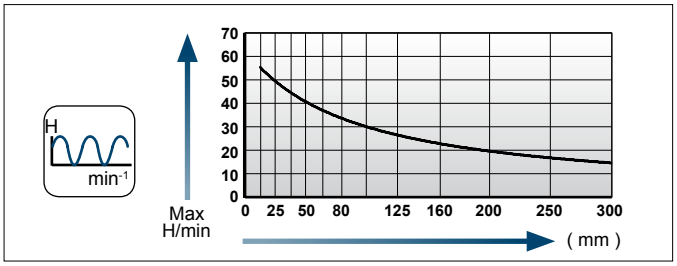


NC.060.10.□□.10000.200

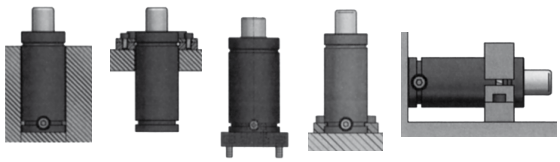
H Hub / Stroke	L ±0,25	LG	Kraft / Force (145 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	185,4	172,7	10280	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	210	185	10280	
038	236	198	10280	
050	260	210	10280	
063,5	287	223,5	10280	
080	320	240	10280	
100	360	260	10280	
125	410	285	10280	
160	480	320	10280	
200	560	360	10280	
250	660	410	10280	
300	760	460	10280	



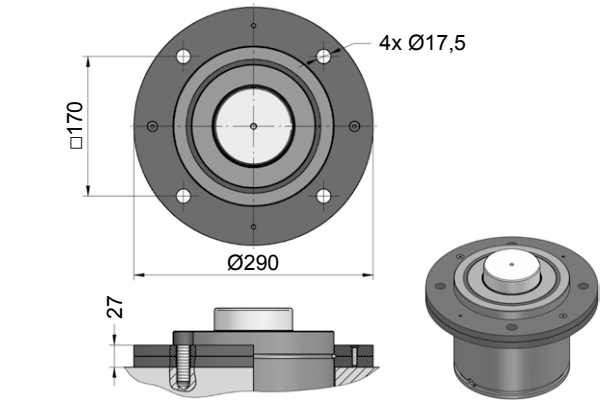




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.10.10000**



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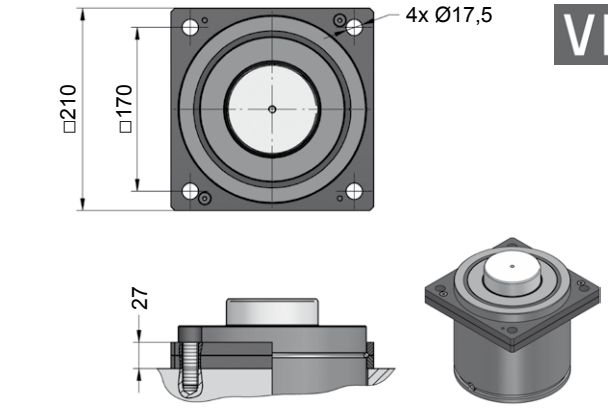

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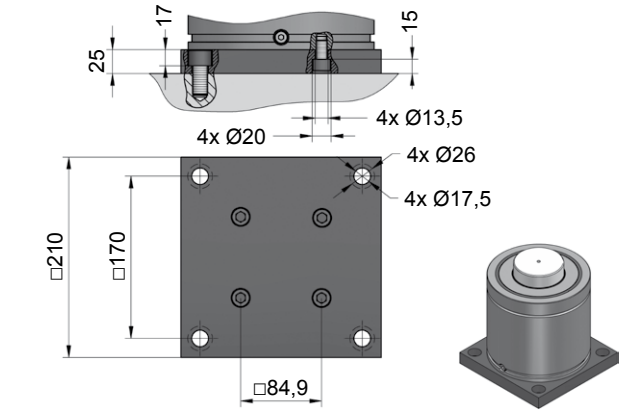

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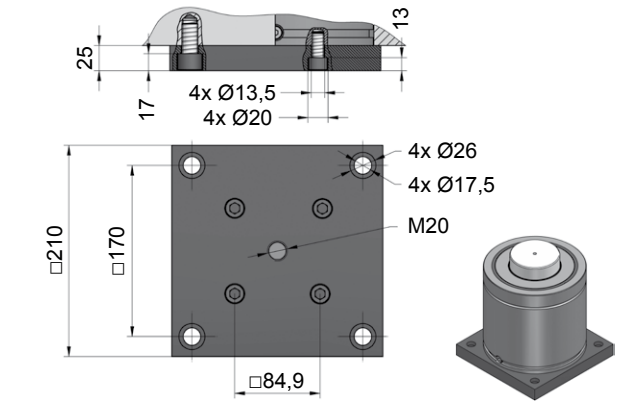
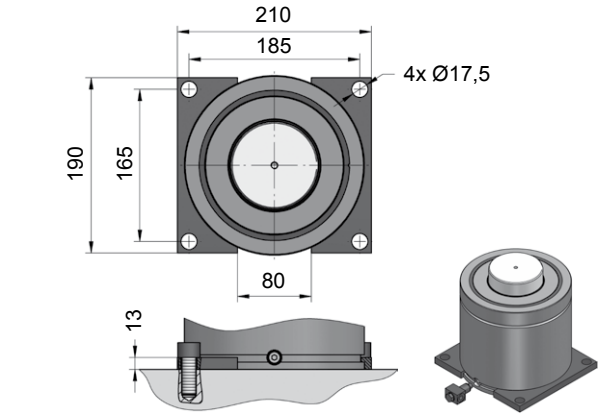


NC.88.00.195.0276



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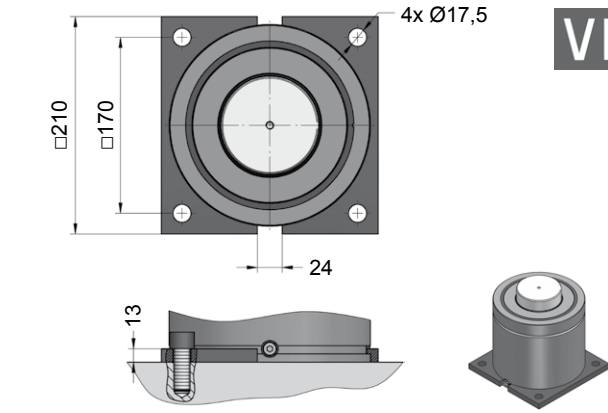

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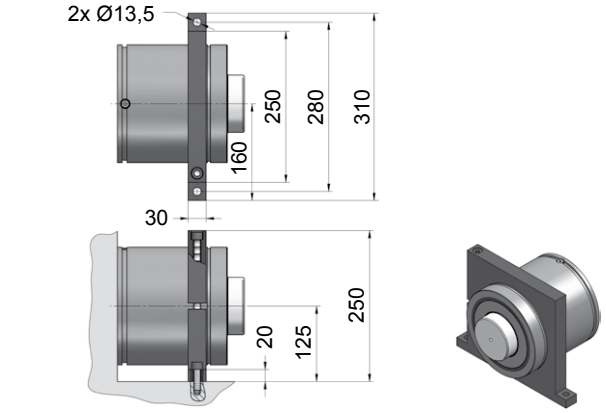
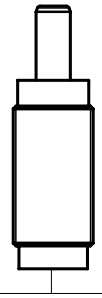


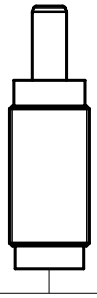
NC.88.00.195.0402

Größenübersicht Serie NC.060.20

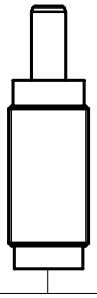
Gas spring index 060.20 series



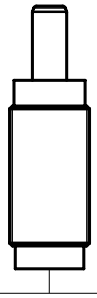
NC.060.20.00050
50 daN
10 - 125 mm
M28 x 1,5



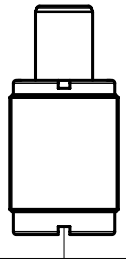
NC.060.20.00100
100 daN
10 - 125 mm
M28 x 1,5



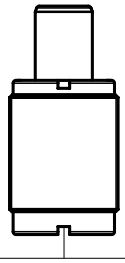
NC.060.20.00150
150 daN
10 - 125 mm
M28 x 1,5



NC.060.20.00200
200 daN
10 - 125 mm
M28 x 1,5



NC.060.20.00300
300 daN
12,7 - 100 mm
M38 x 1,5



NC.060.20.00500
470 daN
10 - 125 mm
M38 x 1,5

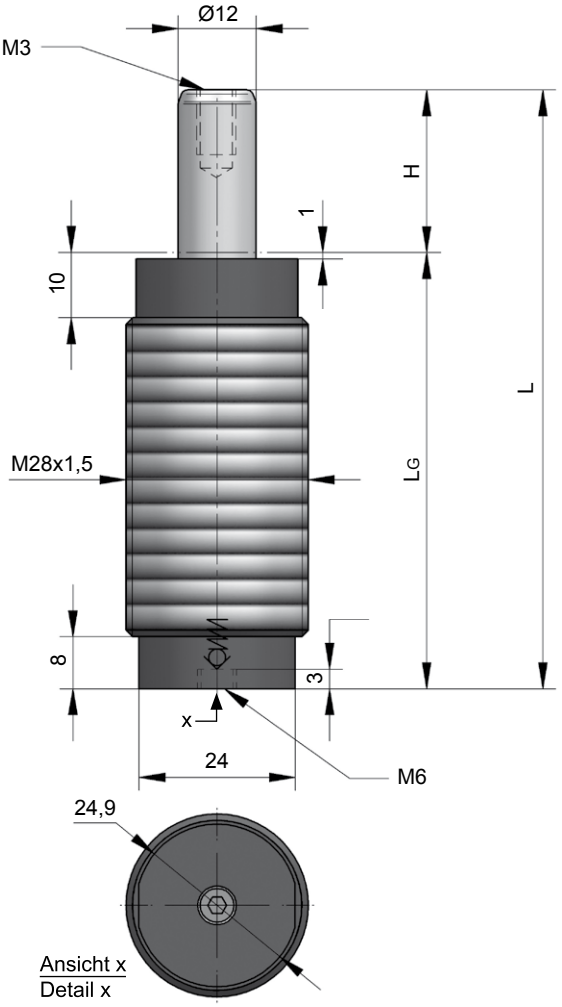
NC.060.20

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

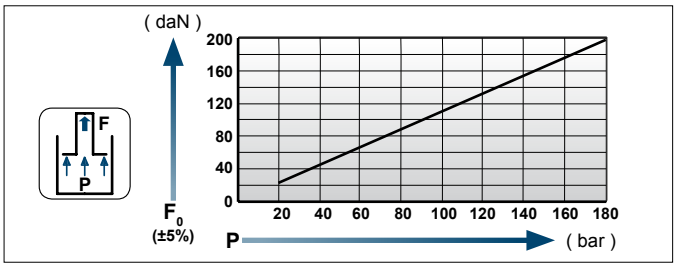
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

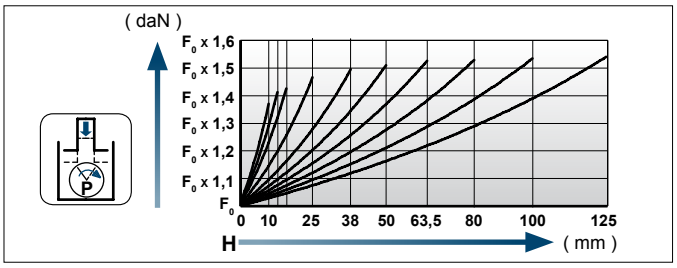


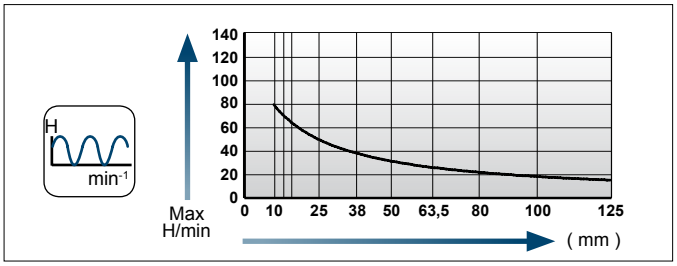
NC.060.20.00200.016

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.060.20.00050	Grün / Green	45	50	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.060.20.00100	Blau / Blue	90	100	
NC.060.20.00150	Rot / Red	135	150	
NC.060.20.00200	Gelb / Yellow	180	200	

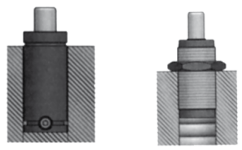
Hub / Stroke	L ±0,25	LG
010	62	52
012,7	67,5	54,7
016	74	58
025	92	67
038	118	80
050	142	92
063,5	169	105,5
080	202	122
100	242	142
125	292	167





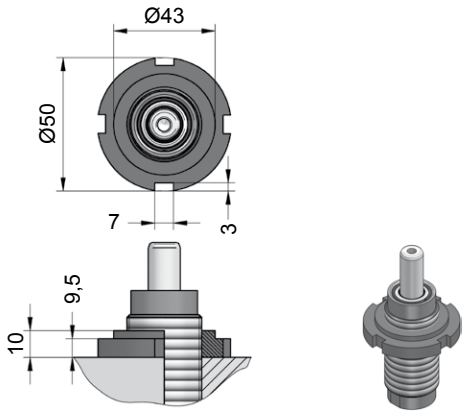


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.060.20.00050, ...00100, ...00150, ...00200**



NC.88.00.028.0558

NC.060.20.00300

NEU! NEW!

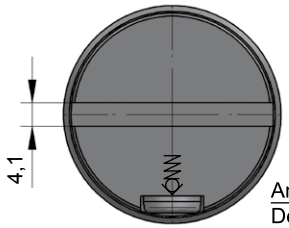
ZUGELASSEN PED 97/23/EG

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

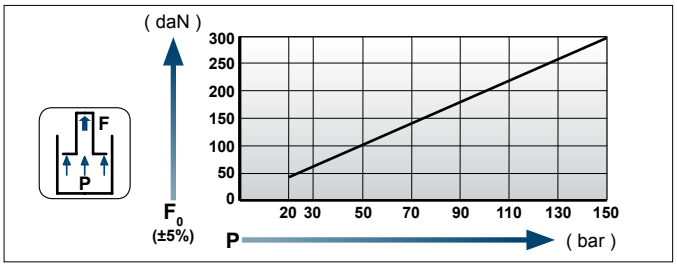
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

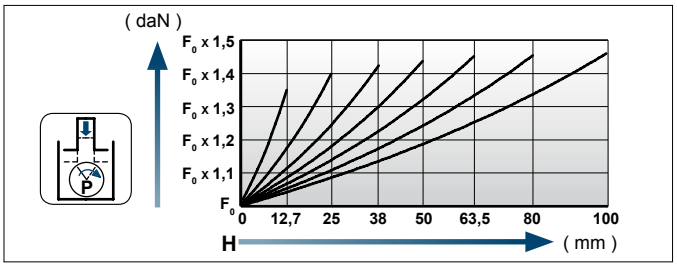


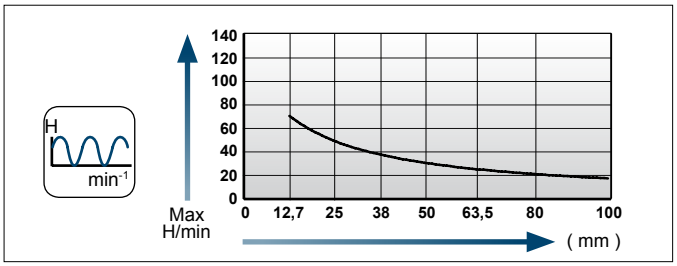
Ansicht x
Detail x

NC.060.20.00300.025

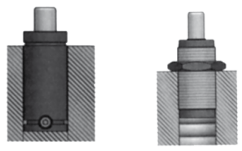
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	75,4	62,7	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	100	75	300	
038	126	88	300	
050	150	100	300	
063,5	177	113,5	300	
080	210	130	300	
100	250	150	300	





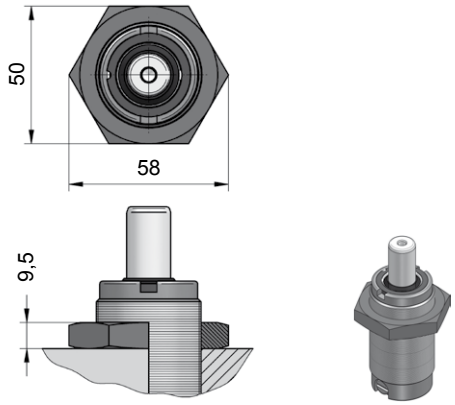


Einbaubeispiele / Flange mounting options

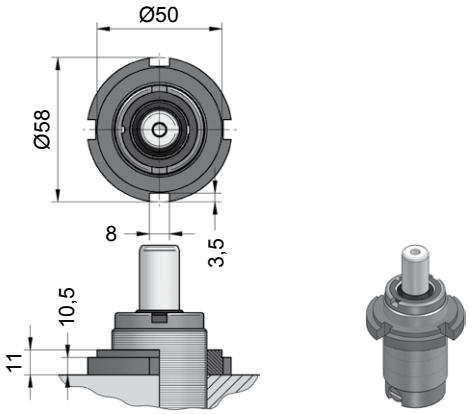


[NC]

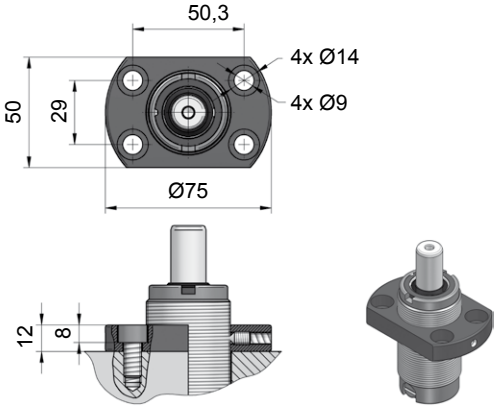
Flansche für / Flanges for **NC.060.20.00300**



NC.88.00.038.0523



NC.88.00.038.0558



NC.88.00.038.0568

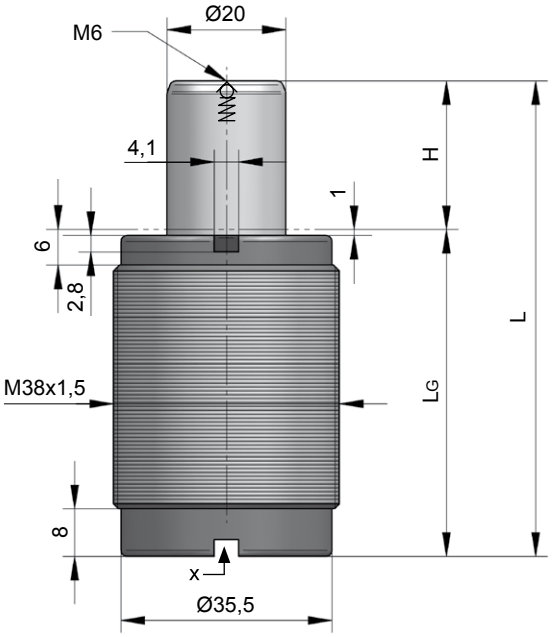
NC.060.20.00500

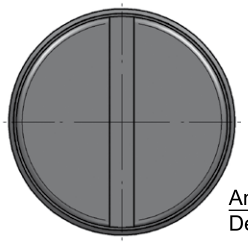
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

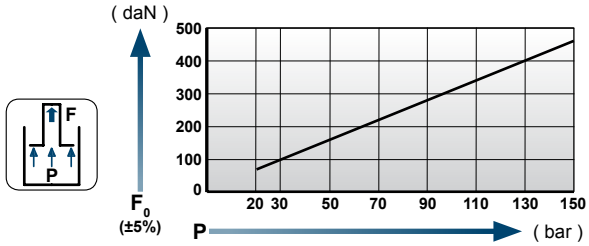
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

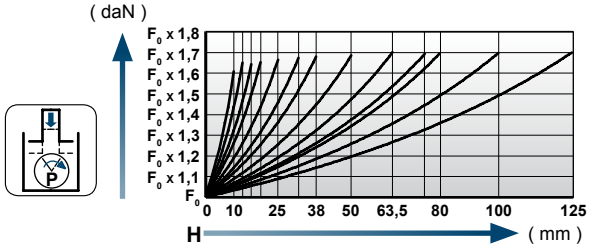


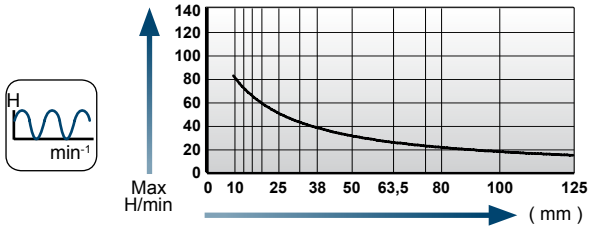


NC.060.20.00500.025

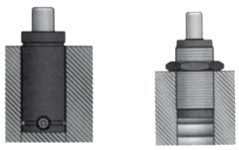
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	50	40	470	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	55,4	42,7	470	
016	62	46	470	
019	68	49	470	
025	80	55	470	
032	94	62	470	
038	106	68	470	
050	130	80	470	
063,5	157	93,5	470	
075	180	105	470	
080	190	110	470	
100	230	130	470	
125	280	155	470	





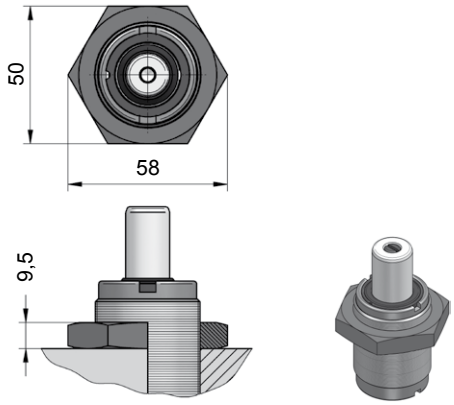


Einbaubeispiele / Flange mounting options

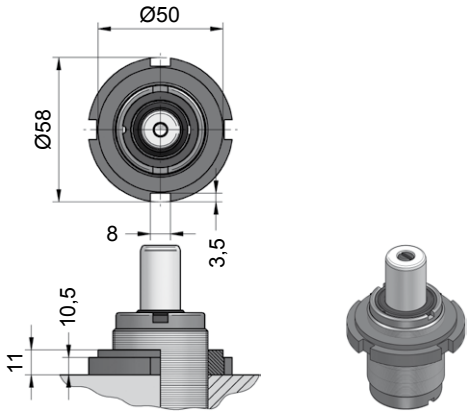


[NC]

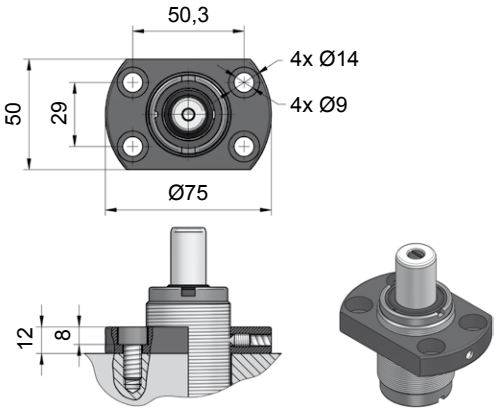
Flansche für / Flanges for **NC.060.20.00500**



NC.88.00.038.0523



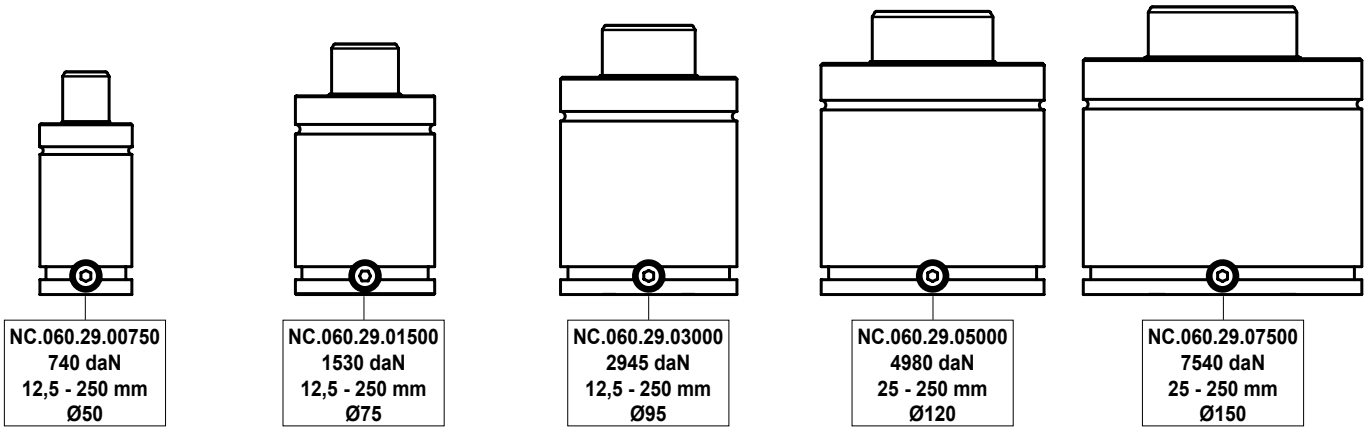
NC.88.00.038.0558



NC.88.00.038.0568

Größenübersicht Serie NC.060.29

Gas spring index 060.29 series



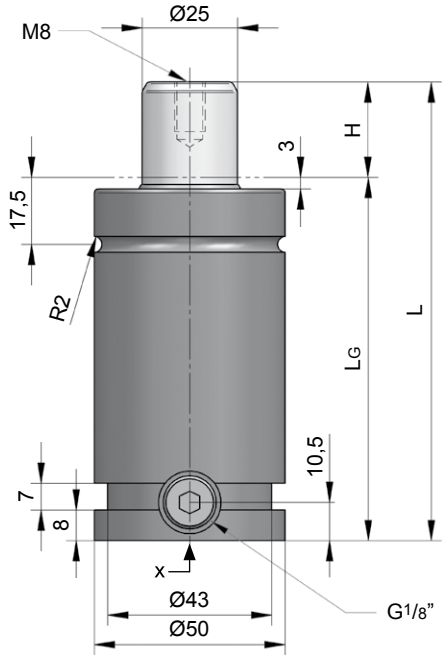
NC.060.29.00750

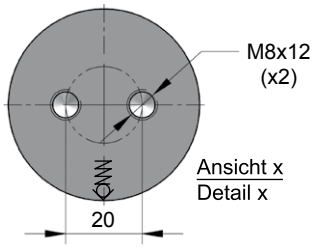
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

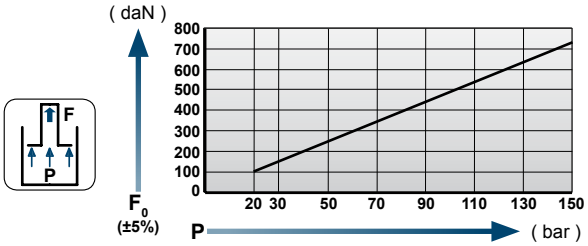
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

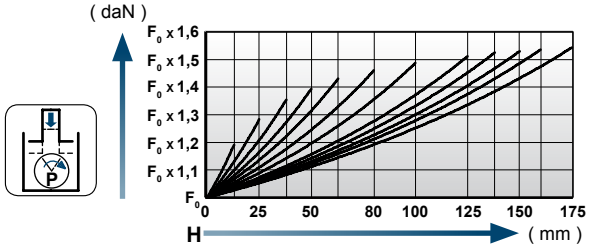


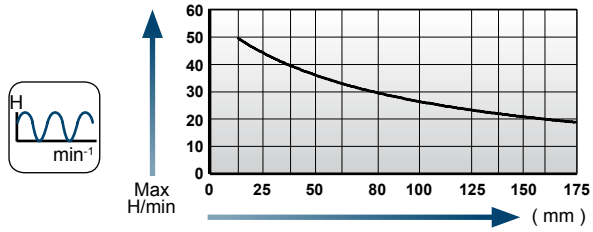


NC.060.29.00750.025

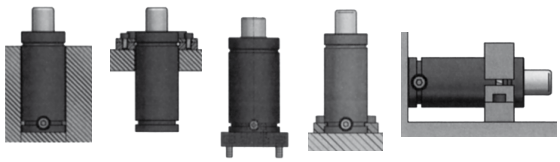
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,5	95	82,5	740	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	120	95	740	
037,5	145	107,5	740	
050	170	120	740	
062,5	195	132,5	740	
080	230	150	740	
100	270	170	740	
125	320	195	740	
137,5	345	207,5	740	
150	370	220	740	
160	390	230	740	
175	420	245	740	



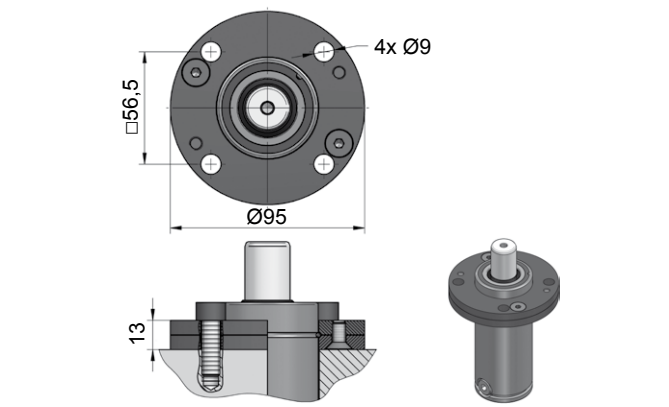




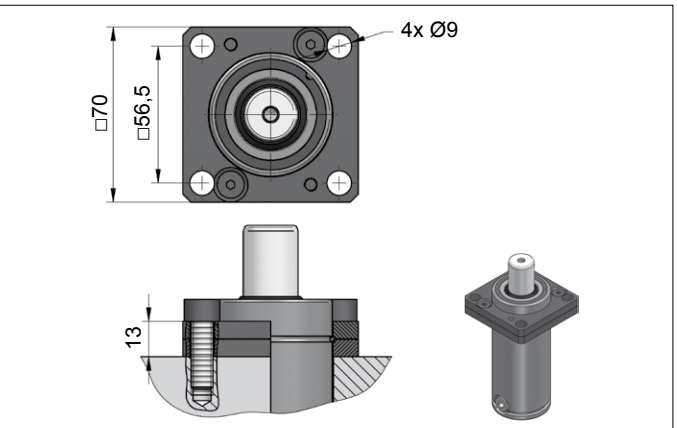
Einbaubeispiele / Flange mounting options



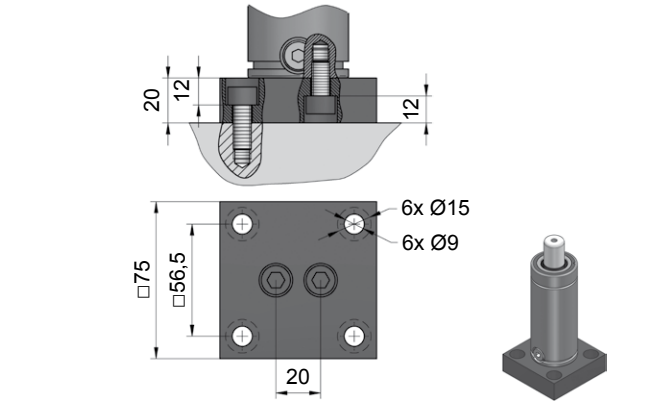
Flansche für / Flanges for **NC.060.29.00750**



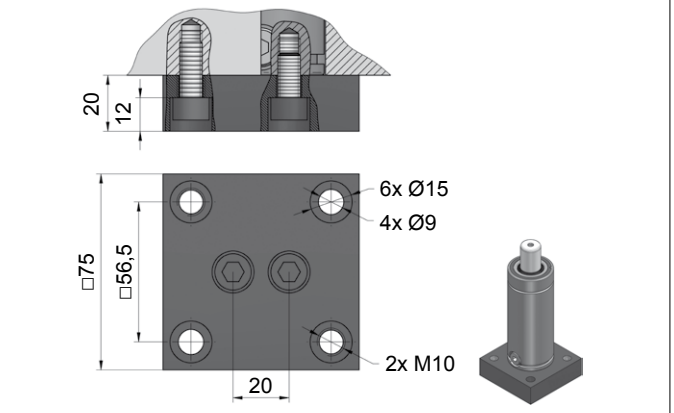
NC.88.00.050.0114



NC.88.00.050.0134



NC.88.00.050.0221



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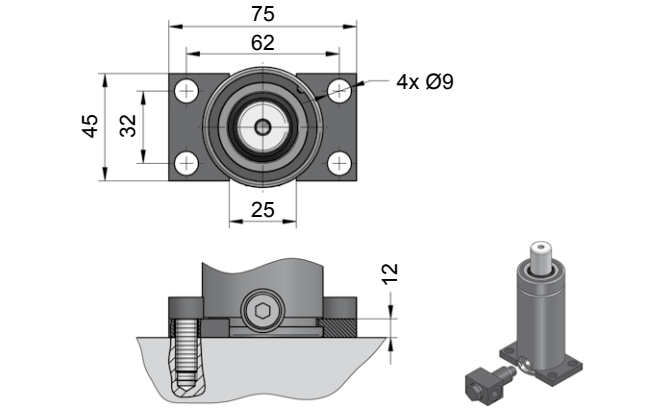
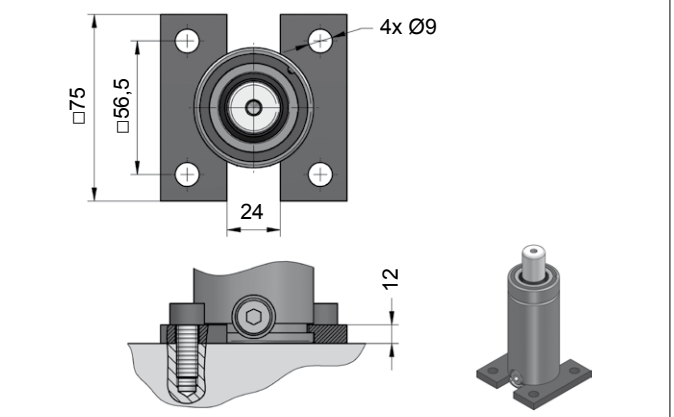


NC.88.00.050.0305



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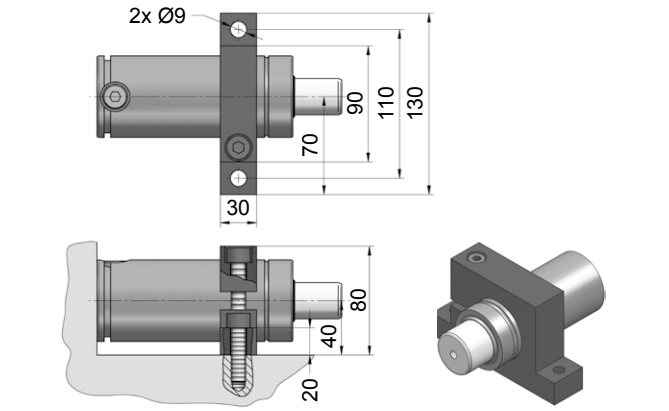
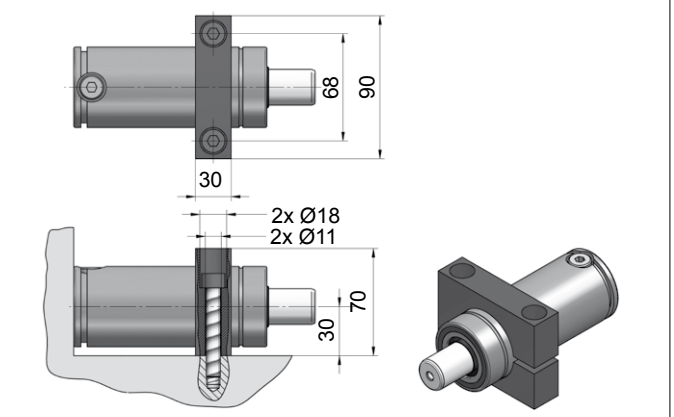


NC.88.00.050.0402



NC.88.00.050.0467

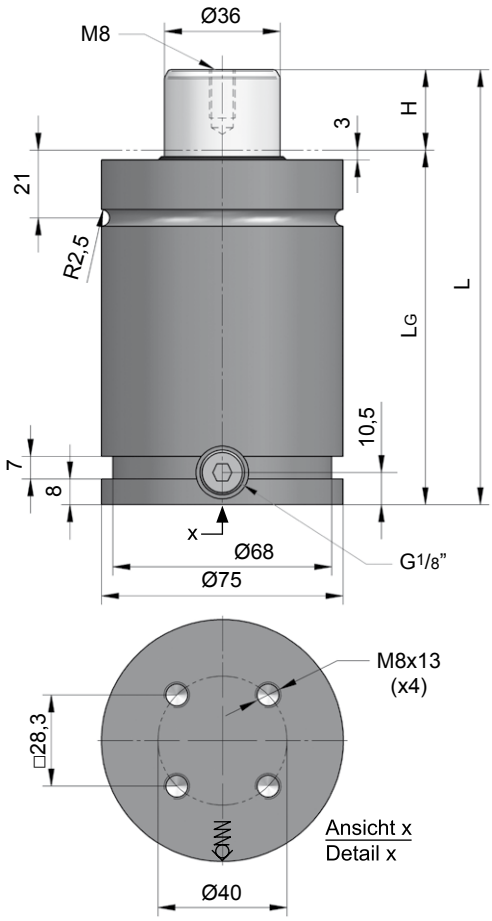
NC.060.29.01500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

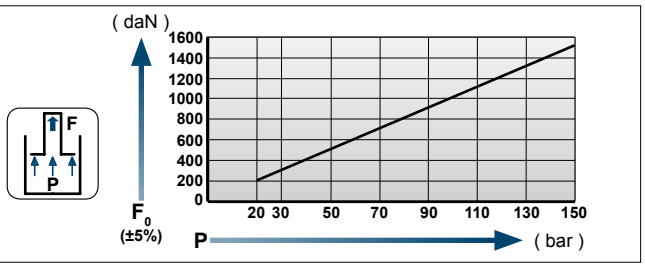
Specifications:

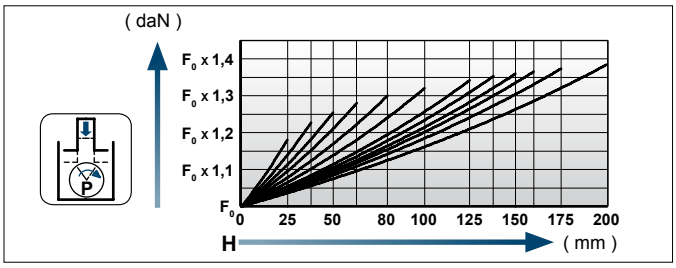
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

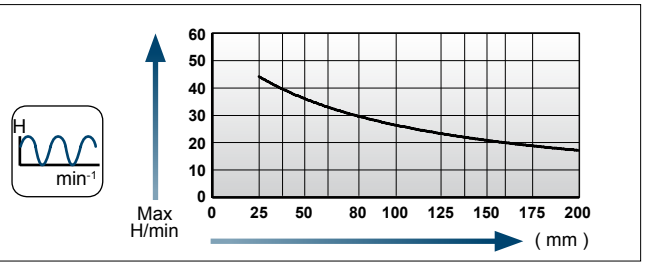


NC.060.29.01500.025

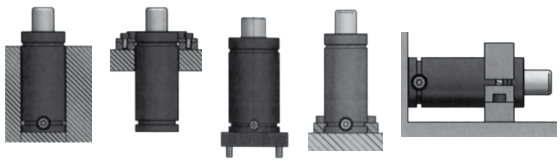
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	135	110	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
037,5	160	122,5	1530	
050	185	135	1530	
062,5	210	147,5	1530	
080	245	165	1530	
100	285	185	1530	
125	335	210	1530	
137,5	360	222,5	1530	
150	385	235	1530	
160	405	245	1530	
175	435	260	1530	
200	485	285	1530	







Einbaubeispiele / Flange mounting options



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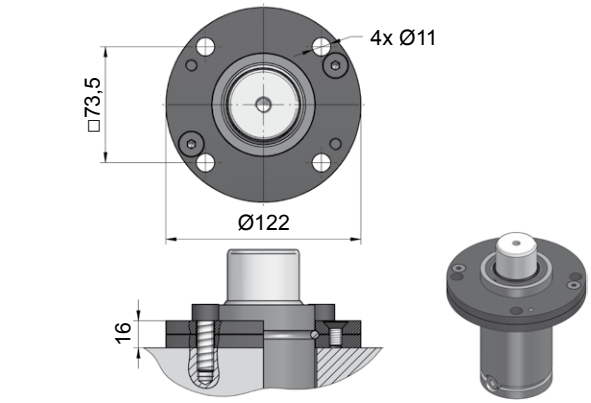
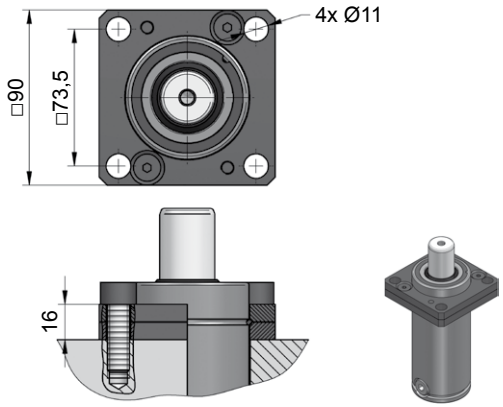
Flansche für / Flanges for **NC.060.29.01500**



NC.88.00.075.0114



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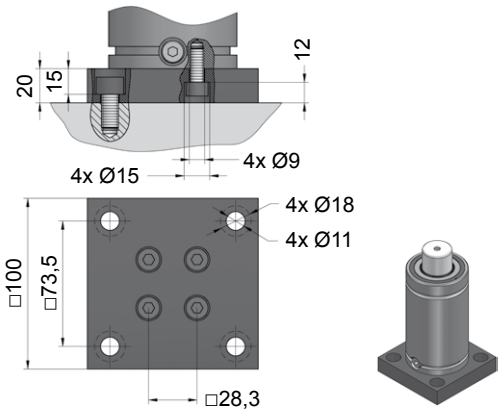

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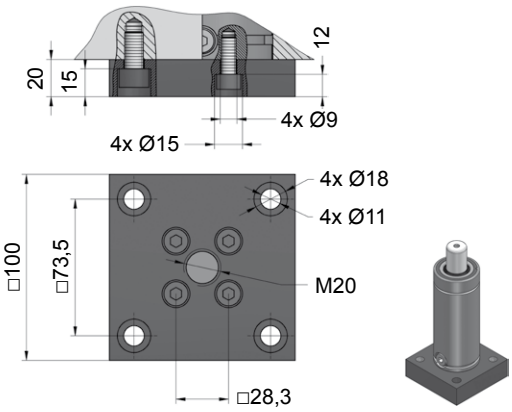

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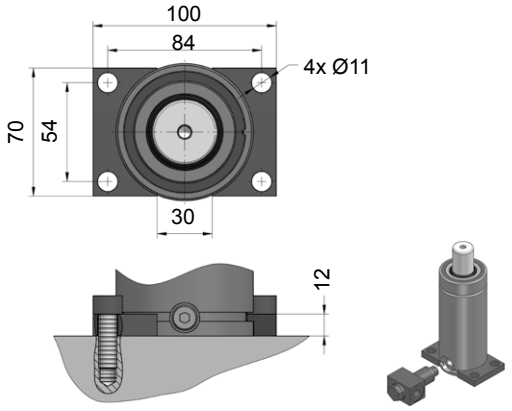
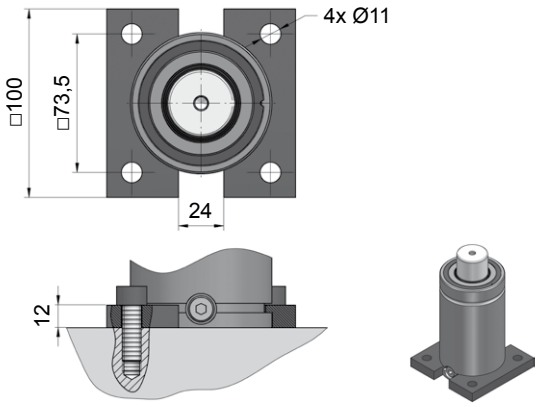
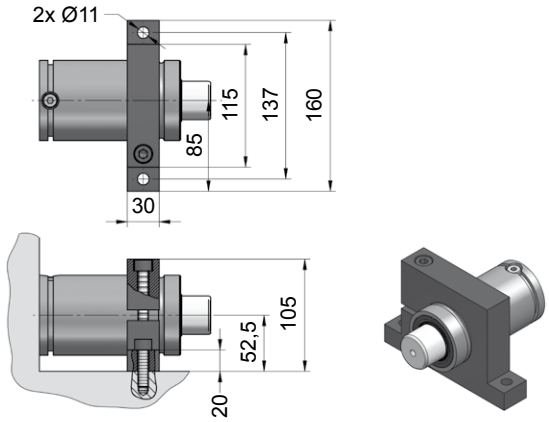


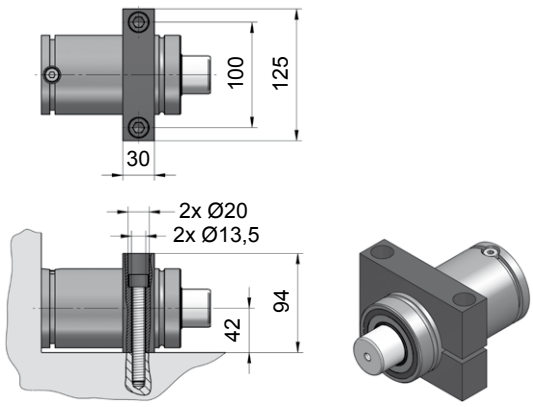
NC.88.00.075.0305



NC.88.00.075.0320



NC.88.00.075.0402



NC.88.00.075.0467

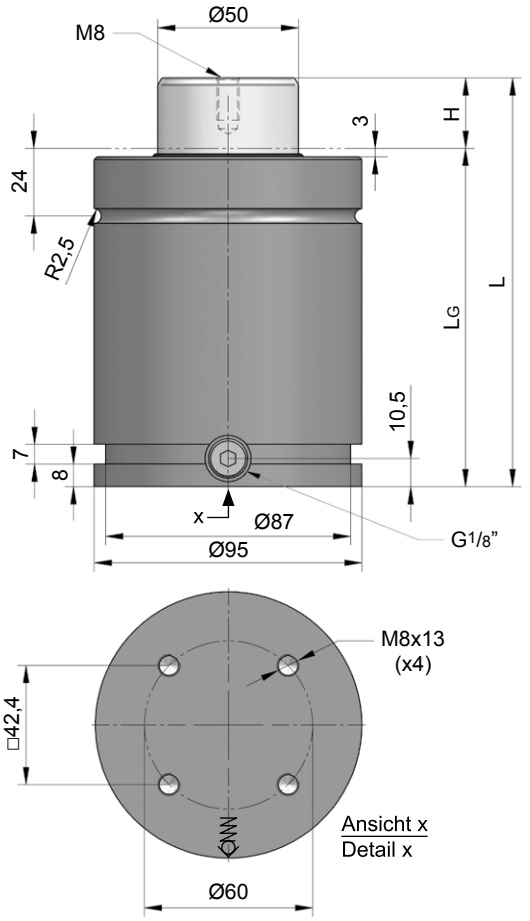
NC.060.29.03000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

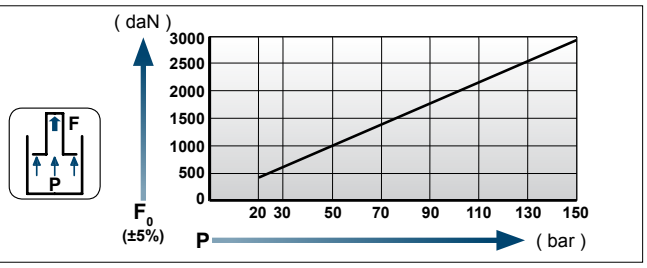
Specifications:

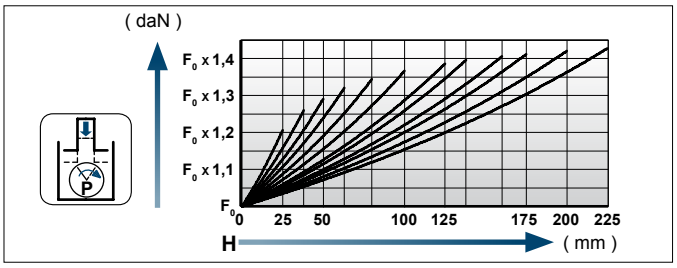
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

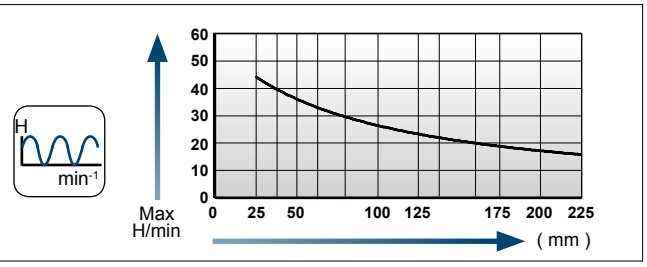


NC.060.29.03000.050

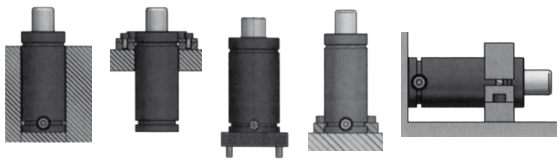
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	145	120	2945	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
037,5	170	132,5	2945	
050	195	145	2945	
062,5	220	157,5	2945	
080	255	175	2945	
100	295	195	2945	
125	345	220	2945	
137,5	370	232,5	2945	
160	415	255	2945	
175	445	270	2945	
200	495	295	2945	
225	545	320	2945	



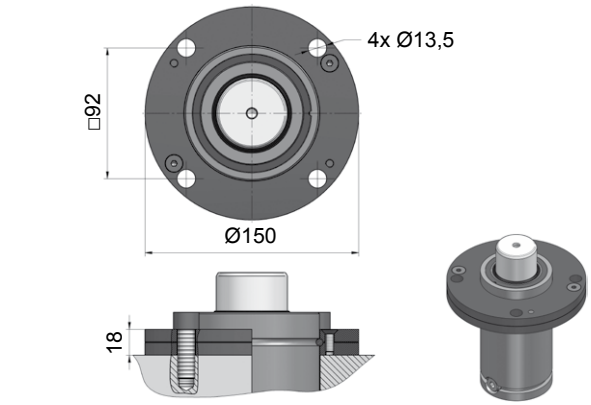




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.29.03000**



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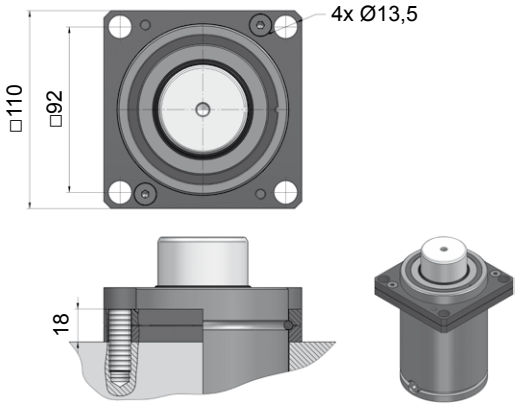

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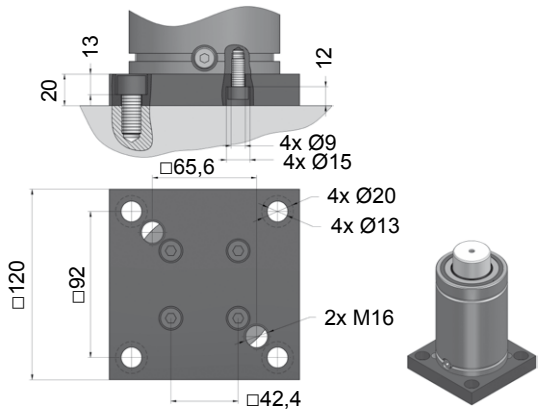

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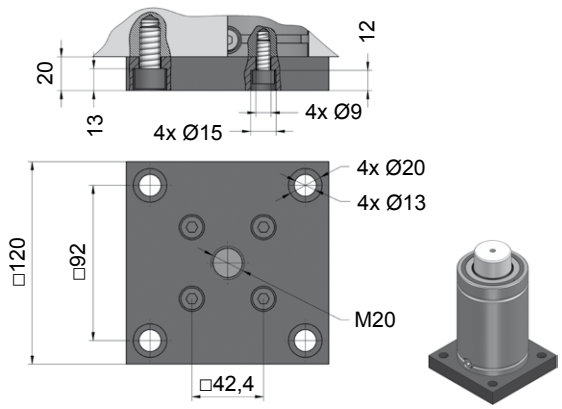

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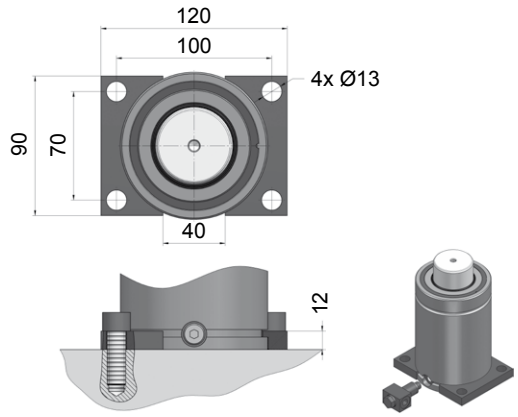

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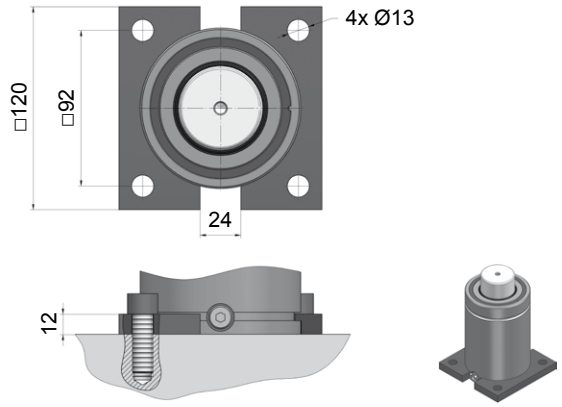

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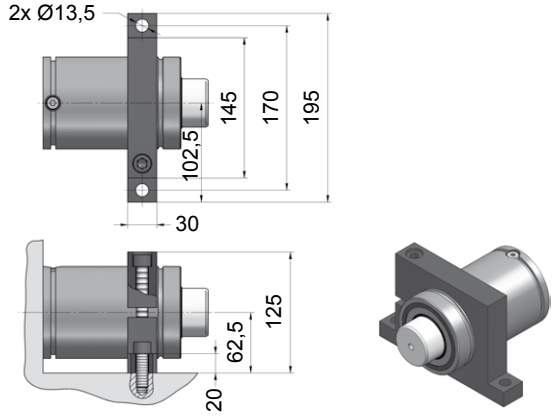
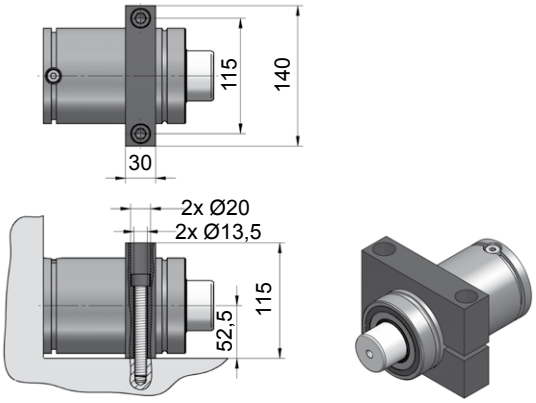


NC.88.00.095.0402



NC.88.00.095.0467

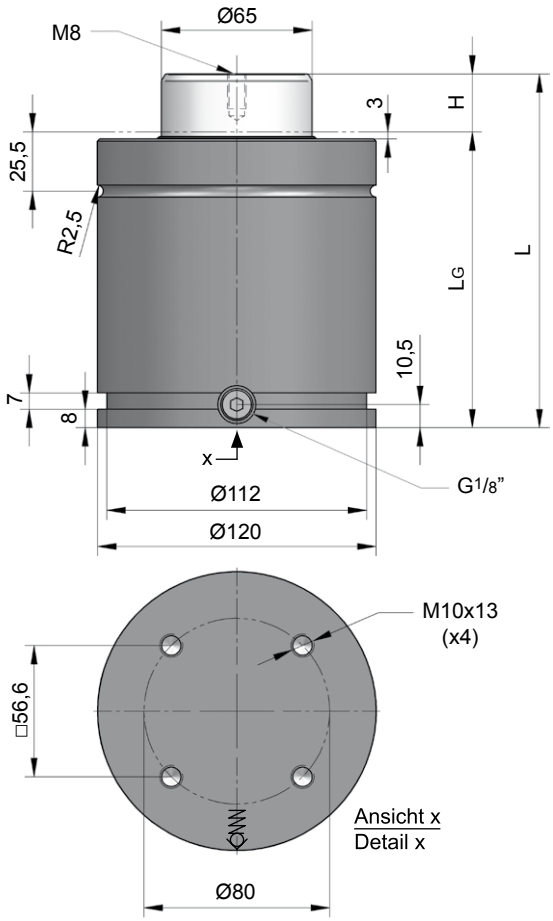
NC.060.29.05000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

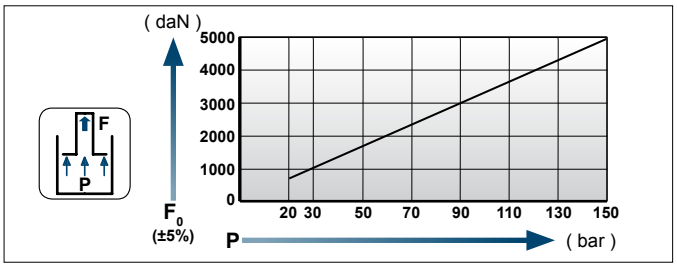
Specifications:

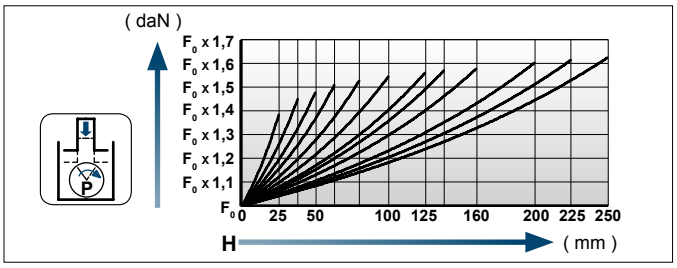
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

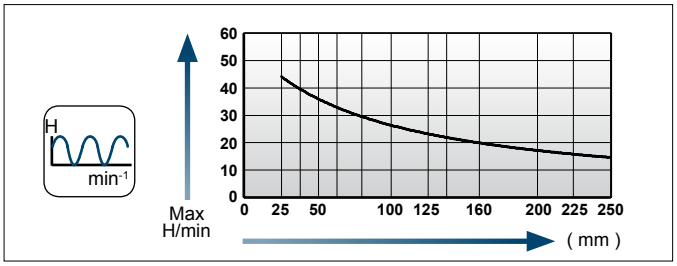


NC.060.29.
05000.025

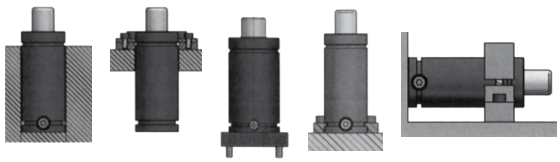
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	 Ende / Final [daN]
025	152,5	127,5	4980	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
037,5	177,5	140	4980	
050	202,5	152,5	4980	
062,5	227,5	165	4980	
080	262,5	182,5	4980	
100	302,5	202,5	4980	
125	352,5	227,5	4980	
137,5	377,5	240	4980	
160	422,5	262,5	4980	
200	502,5	302,5	4980	
225	552,5	327,5	4980	
250	602,5	352,5	4980	



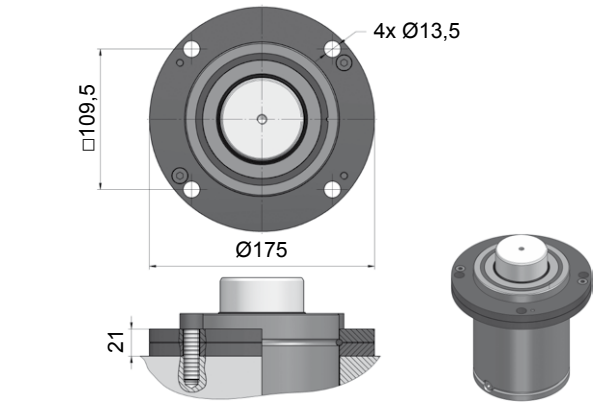




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.060.29.05000**



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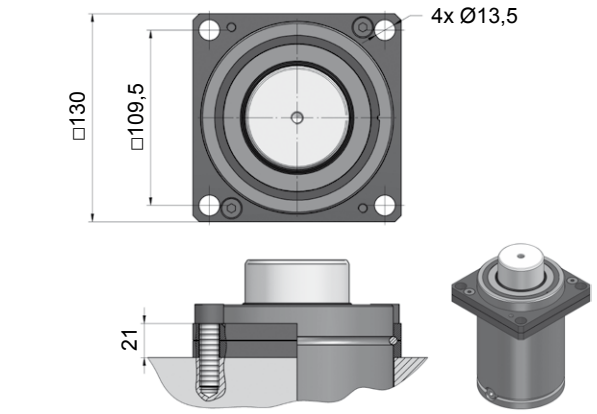

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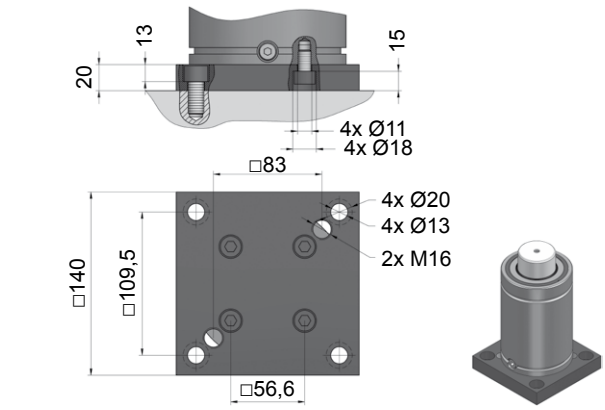
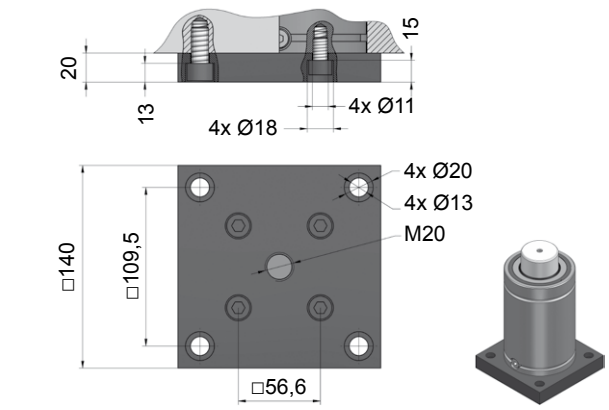
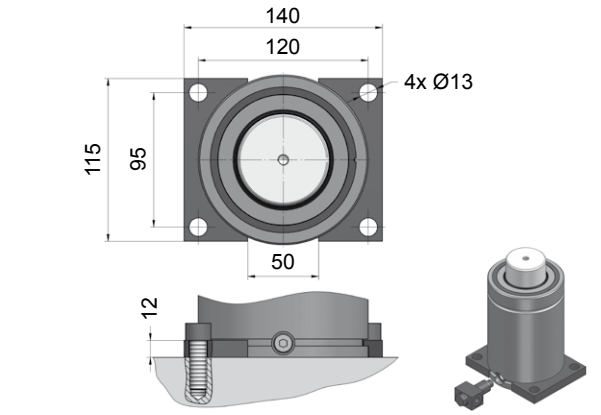


NC.88.00.120.0221



NC.88.00.120.0276



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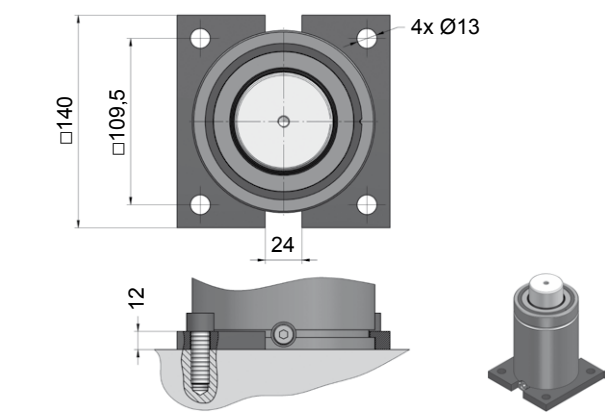

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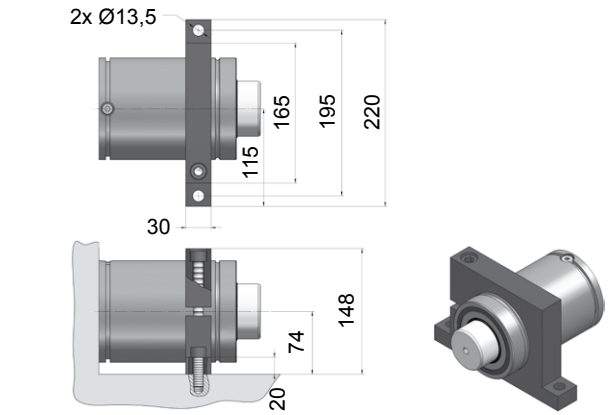
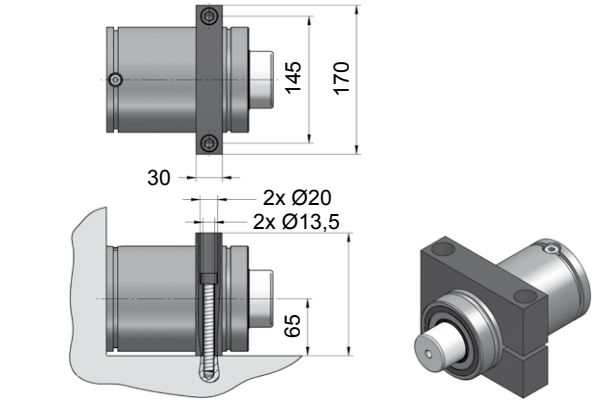


NC.88.00.120.0402



NC.88.00.120.0467

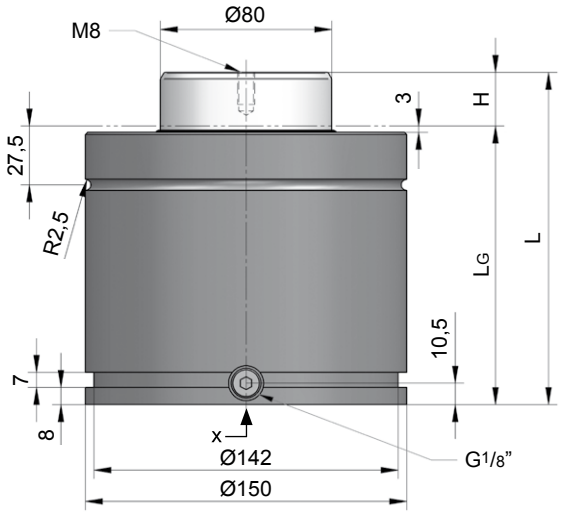
NC.060.29.07500

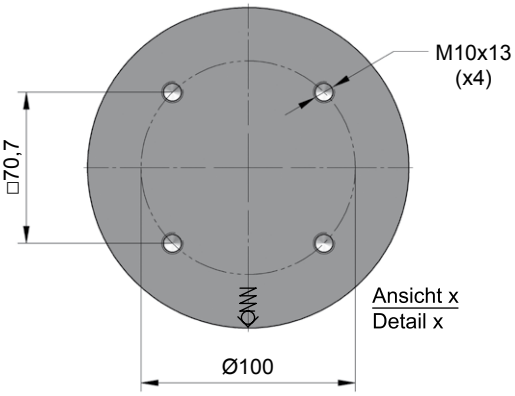
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

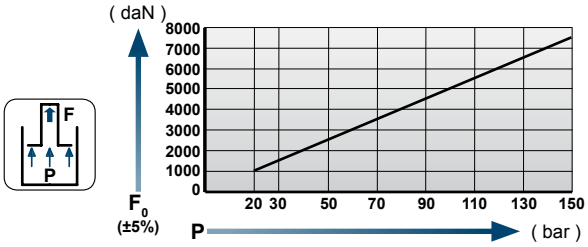
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

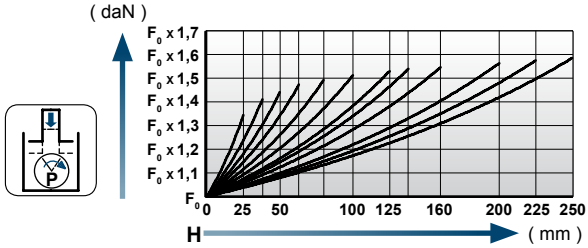


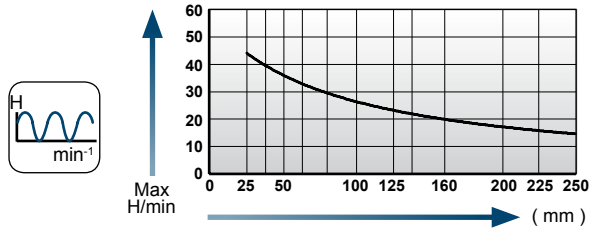


NC.060.29.07500.125

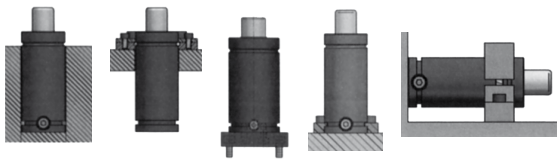
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	155	130	7540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
037,5	180	142,5	7540	
050	205	155	7540	
062,5	230	167,5	7540	
080	265	185	7540	
100	305	205	7540	
125	355	230	7540	
137,5	380	242,5	7540	
160	425	265	7540	
200	505	305	7540	
225	555	330	7540	
250	605	355	7540	





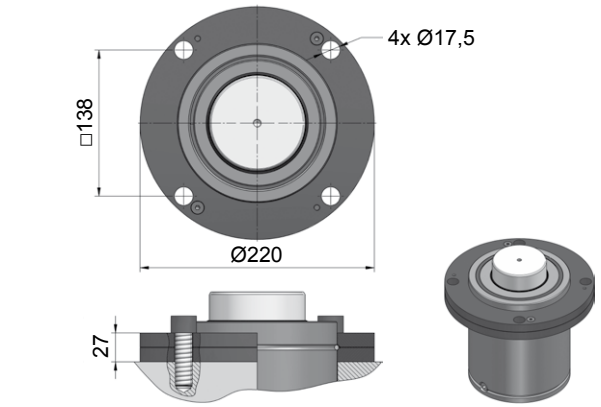


Einbaubeispiele / Flange mounting options

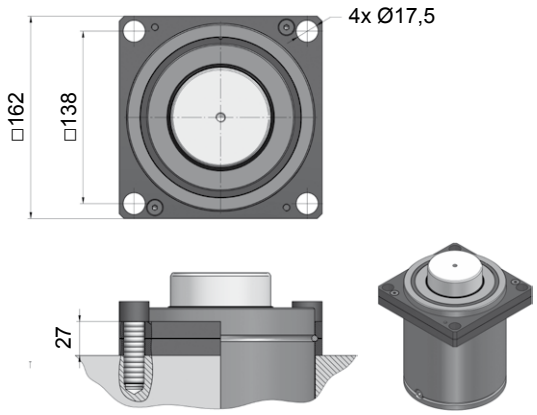


[NC]

Flansche für / Flanges for **NC.060.29.07500**



NC.88.00.150.0114



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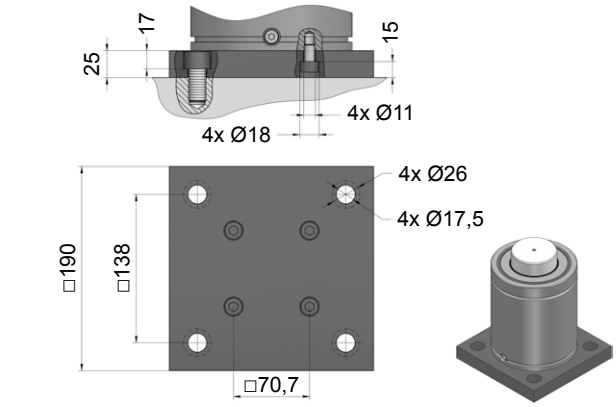

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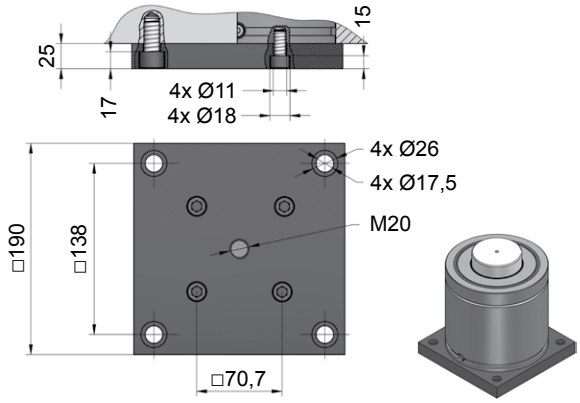

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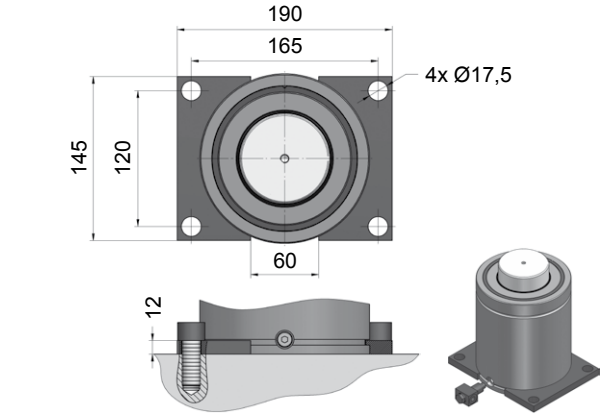

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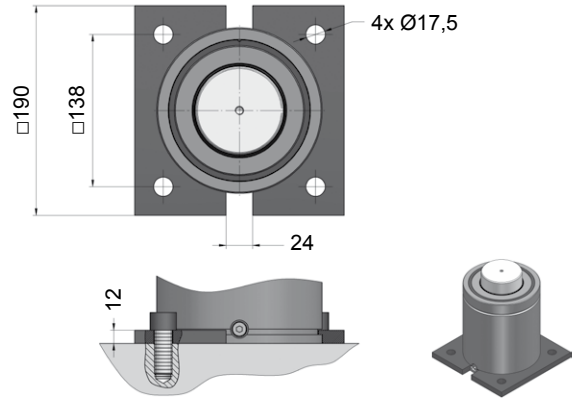

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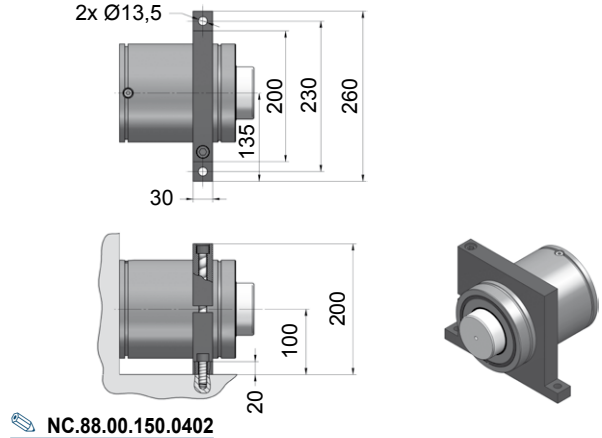

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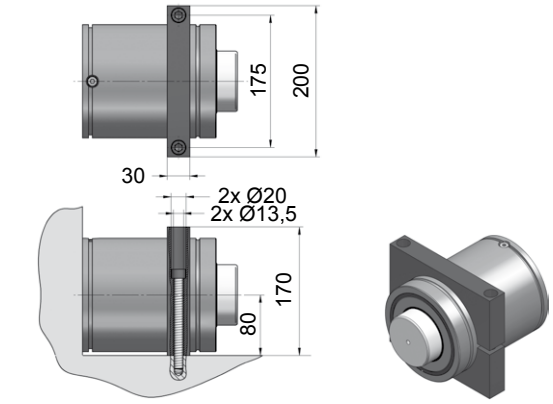
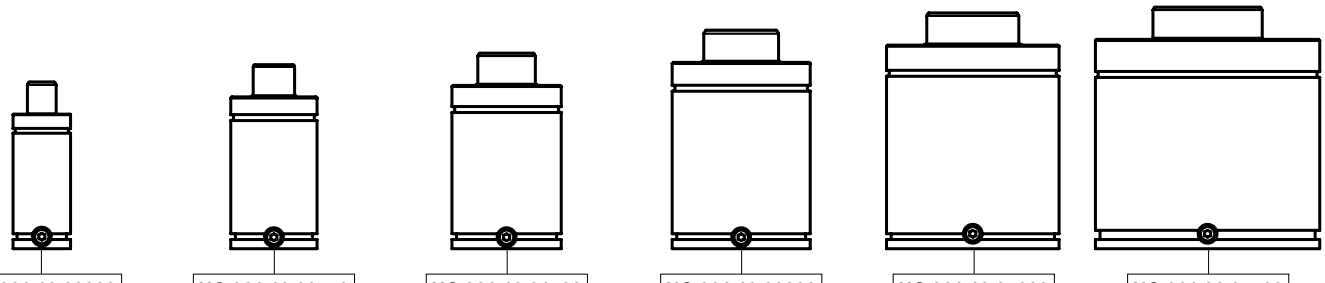


NC.88.00.150.0467

Größenübersicht Serie NC.061.10

Gas spring index 061.10 series



NC.061.10.00300	NC.061.10.00750	NC.061.10.01500	NC.061.10.03000	NC.061.10.05000	NC.061.06.07500
300 daN	760 daN	1470 daN	2985 daN	5025 daN	7440 daN
25 - 100 mm	25 - 125 mm	12,7 - 125 mm	12,7 - 125 mm	12,7 - 125 mm	12,7 - 125 mm
Ø45	Ø75	Ø95	Ø120	Ø150	Ø195

Technische Informationen Serie NC.061.10

Die Gasdruckfedern **NC.061.10** wurden für einen verzögerten Rückhub konstruiert. Dabei fährt die Kolbenstange langsamer zurück als das Werkzeugoberteil.

Ablauf: Die Gasdruckfedern **NC.061.10** werden wie herkömmliche Federn unter Last zusammengefahren, wobei die Kolbenstange beim Rückhub auf den ersten ca. 5 mm „normal“, dann verzögert zurückfährt. Um die Gasdruckfedern den jeweiligen, spezifischen Kundenanforderungen entsprechend konzipieren zu können, werden folgende Parameter benötigt:

1. Zylindertyp und Hub
2. Arbeitshub
3. Verzögerungszeit (in wievielen Sekunden soll die Kolbenstange wieder ausgefahren sein?)

Anwendungsfälle: Überall, wo ein gleichzeitiger Rückhub von Pressenoberteil und Gasdruckfeder(n) **NC.061.10** möglicherweise zur Blechteil-Beschädigung führen könnte.

Vorteile im Vergleich zu anderen Verzögerungssystemen:

- Autonome Zylinder ohne Verschlauchung, u.ä.
- Einfacher Einbau
- Kosteneinsparung, da keine komplexen Systeme (Peripherie)

Technical information 061.10 series

NC.061.10 gas springs are designed to achieve a delayed effect. The piston-rod-return is slower than the return of the upper half of the die.

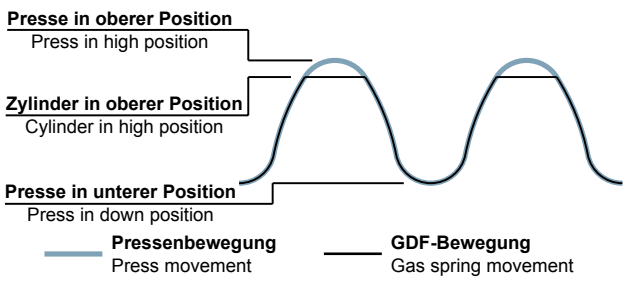
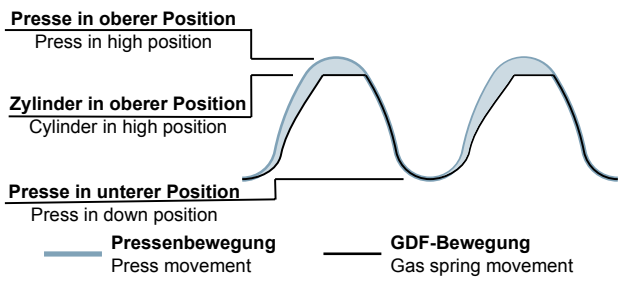
Performance: Gas springs of the **NC.061.10**-family are compressed like regular ones, but their rod-return tuwards the extended 0-position happens delayed, meaning: the rod-return is slower (but the first 5 mm), than usually.
In order to design the custom-specific internal layout of these delayed gas springs, the following parameters are needed:

1. Type and stroke-length of gas spring
2. Length of working stroke
3. Requested delay (how many seconds for the rod to be up at extended 0-position?)

Applications: NC.061.10 gas springs satisfy customer needs in applications, that require a slow(er) return of the gas spring piston rods in order to avoid damage of the final sheet-metal products.

Advantages: NC.061.10 gas springs represent a very interesting alternative in comparison to other complex time-delayed systems:

- Self contained gas springs with higher reliability.
- Cost reduction in comparison to alternative systems.
- Quick implementation.

Standard-Gasdruckfeder/ Standard gas spring	**NC.061.10**
	

Keine Beschädigung der Blechteile durch langsameren Rücklauf der Kolbenstange.
Due to the rod returning slower, no demaging of the producted sheet metal part.

[NC]

NC.061.10.00300

Technische Daten:

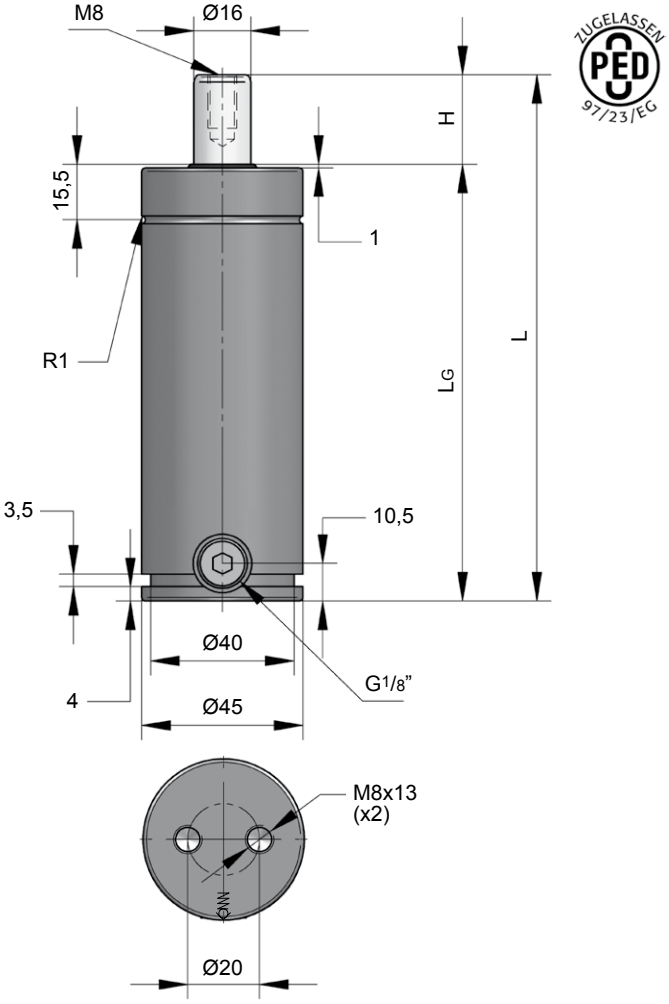
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
K = 0,015 x Arbeitshub in (mm)
Verzögerungszeit bei Bestellung bitte angeben.

Specifications:

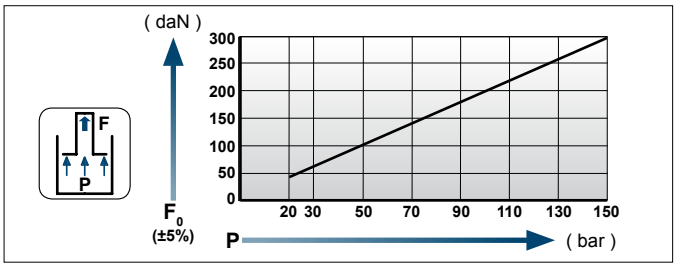
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

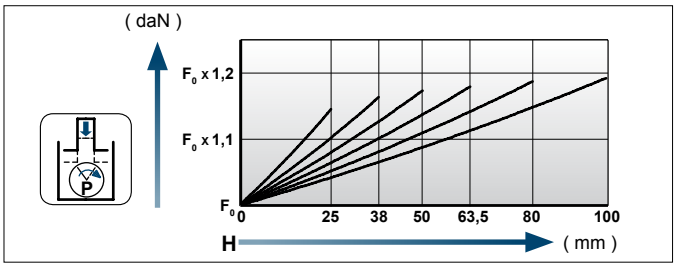
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
K = 0,015 x working stroke (mm)
When ordering please specify the real working stroke and the desired time of delay.

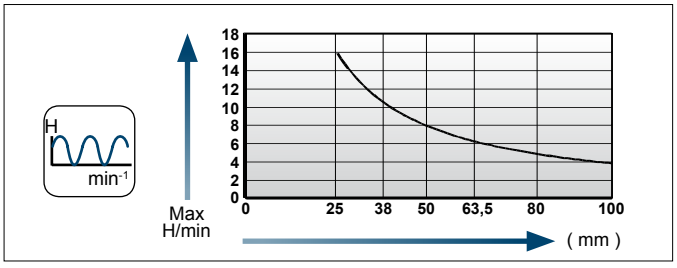


NC.061.10.00300.050

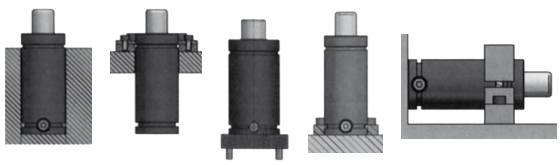
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	147	122	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	173	135	300	
050	197	147	300	
063,5	224	160,5	300	
080	257	177	300	
100	297	197	300	



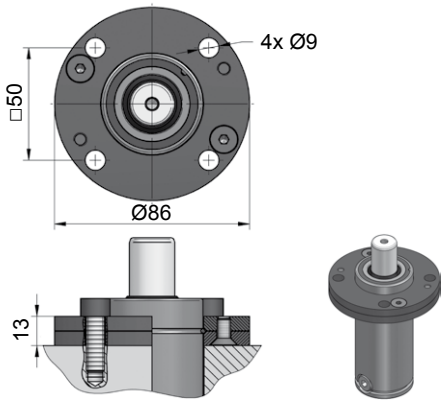




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.061.10.00300**



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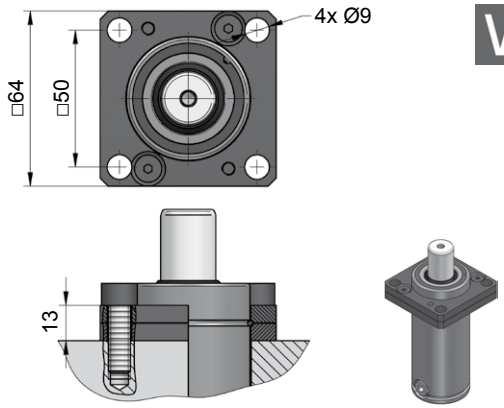

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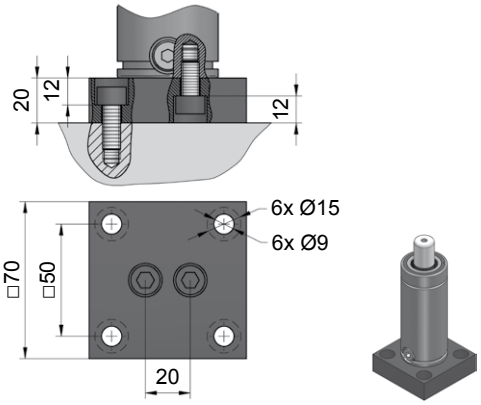

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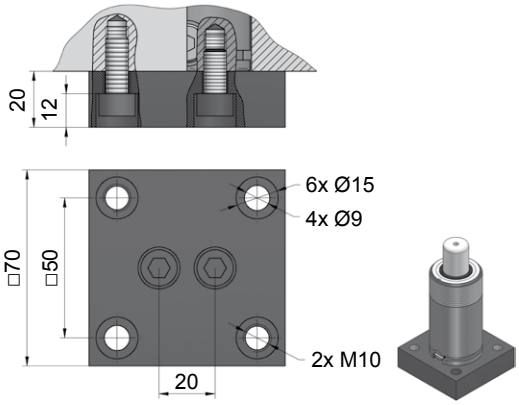

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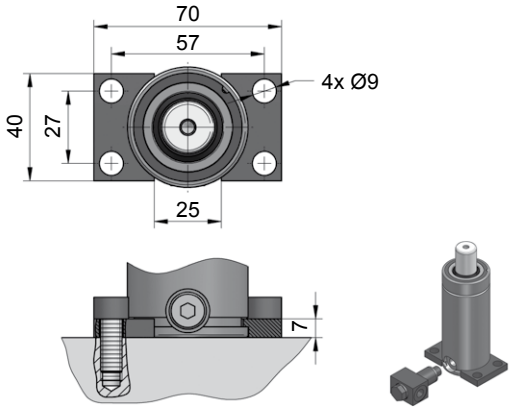
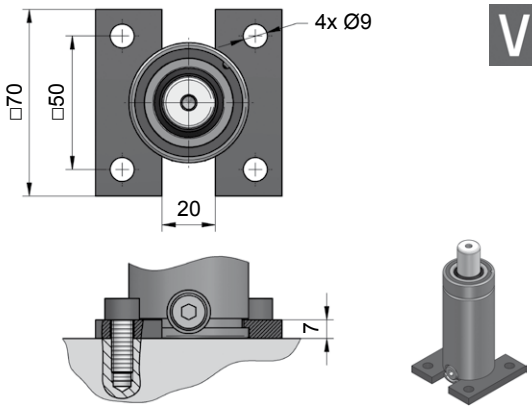


NC.88.00.045.0305



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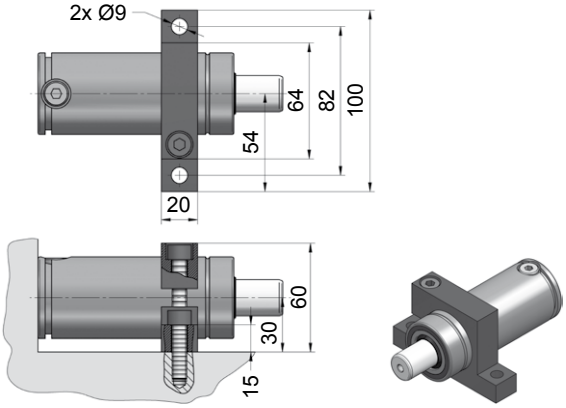

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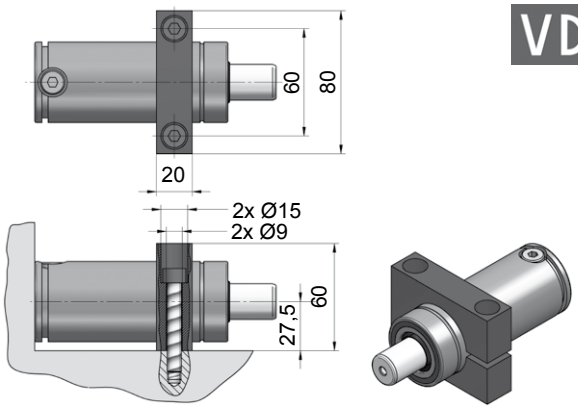


NC.88.00.045.0467

NC.061.10.00750

Technische Daten:

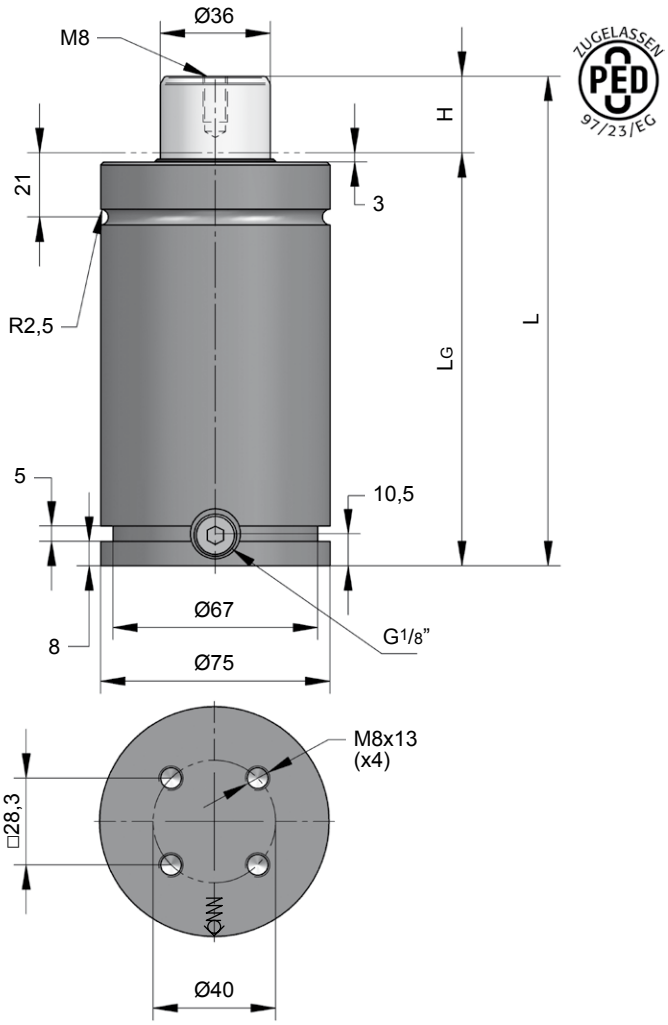
Medium:	N_2
$P_{max.}$ (20 °C):	75 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
K = 0,062 x Arbeitshub in (mm)
Verzögerungszeit bei Bestellung bitte angeben.

Specifications:

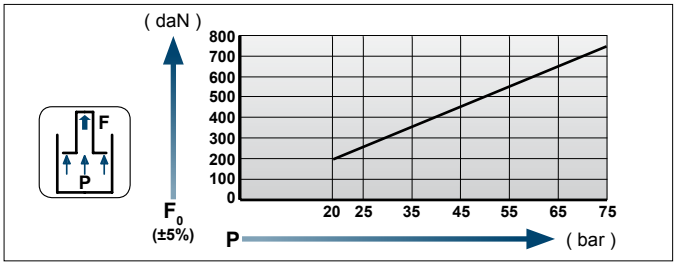
Pressure medium:	N_2
$P_{max.}$ (20 °C):	75 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

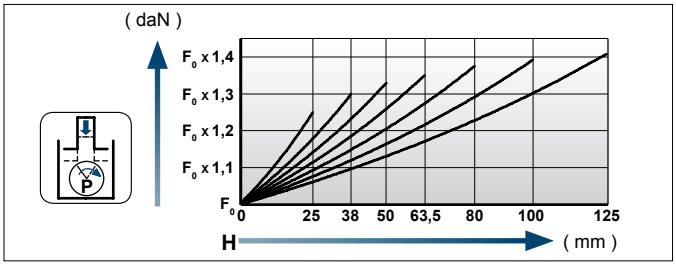
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
K = 0,062 x working stroke (mm)
When ordering please specify the real working stroke and the desired time of delay.

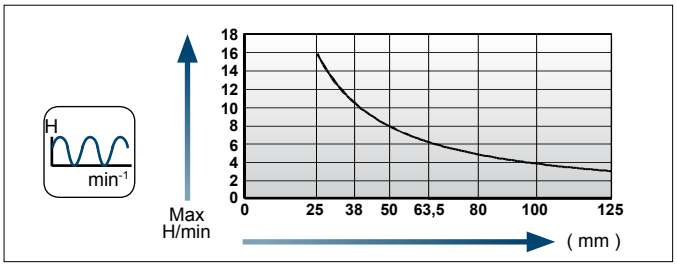


NC.061.10.00750.050

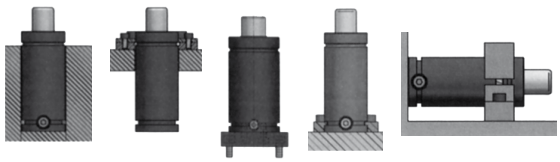
H Hub / Stroke	L ±0,25	LG	Kraft / Force (75 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	160	135	760	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	186	148	760	
050	210	160	760	
063,5	237	173,5	760	
080	270	190	760	
100	310	210	760	
125	360	235	760	





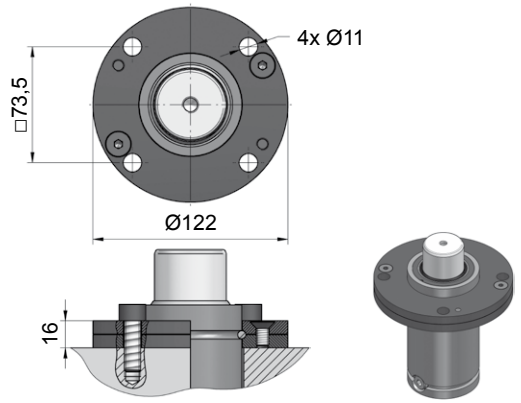


Einbaubeispiele / Flange mounting options



[NC]

Flansche für / Flanges for **NC.061.10.00750**



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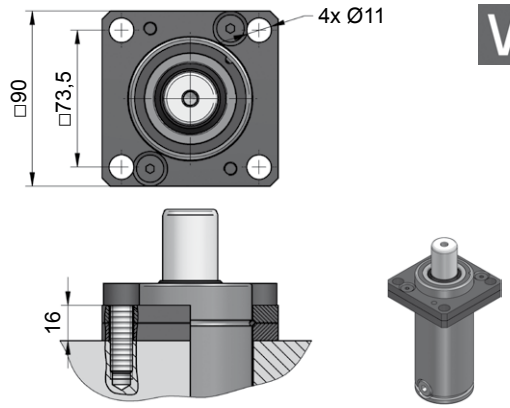

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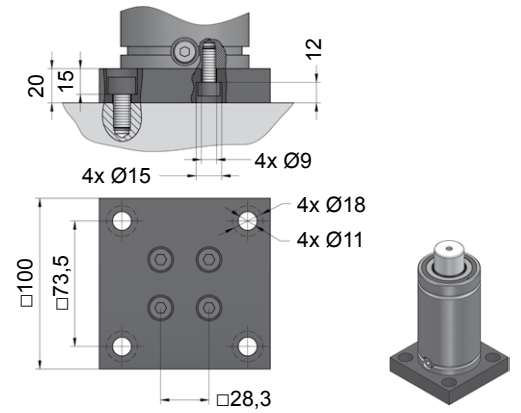

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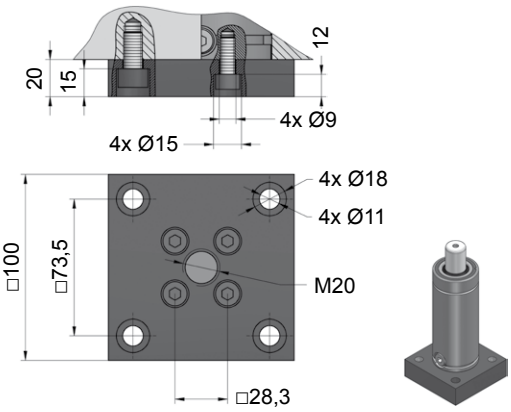

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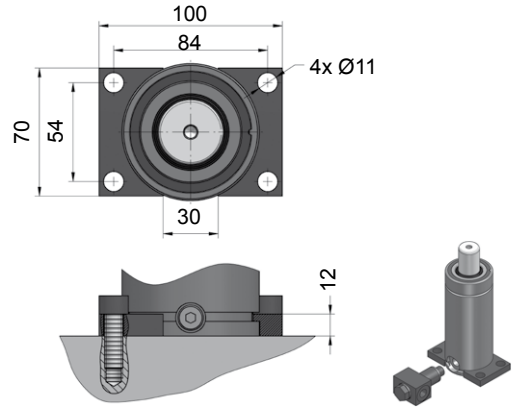
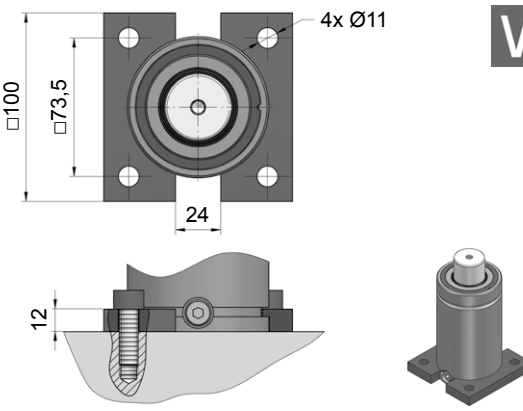


NC.88.00.075.0305



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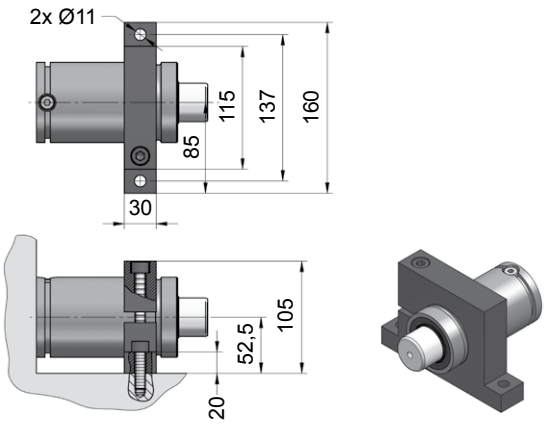

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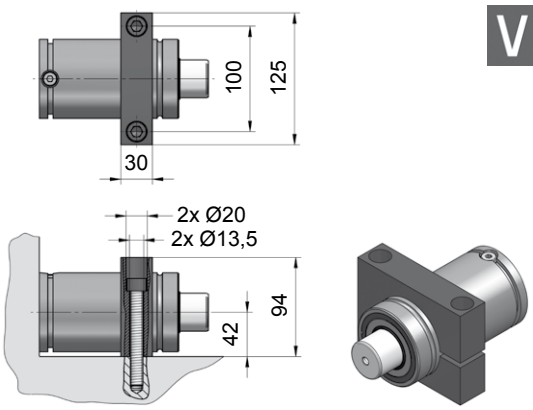


NC.88.00.075.0467

NC.061.10.01500

Technische Daten:

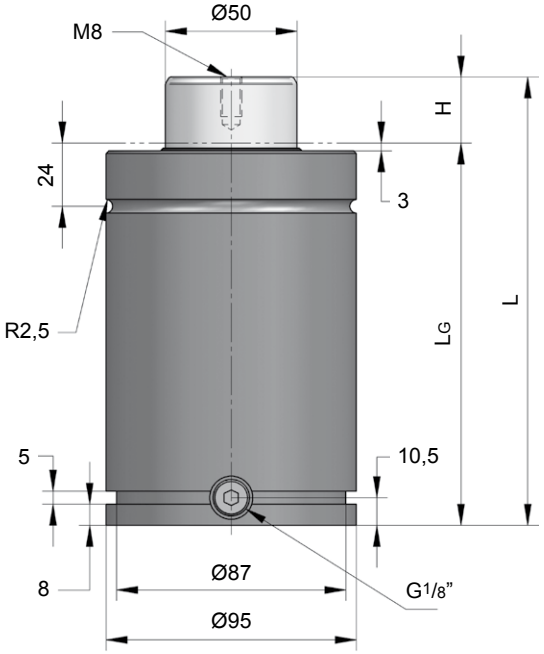
Medium:	N_2
$P_{max.}$ (20 °C):	75 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

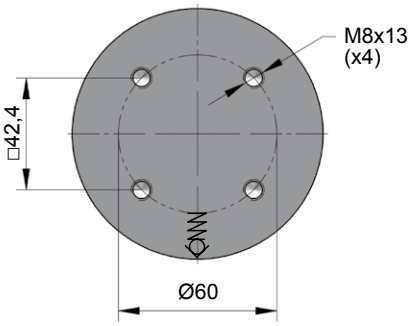
Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	75 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
K = 0,09 x Arbeitshub in (mm)
Verzögerungszeit bei Bestellung bitte angeben.

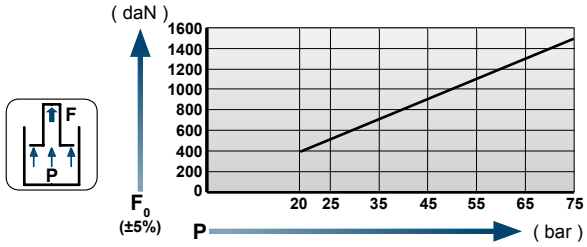
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
K = 0,09 x working stroke (mm)
When ordering please specify the real working stroke and the desired time of delay.

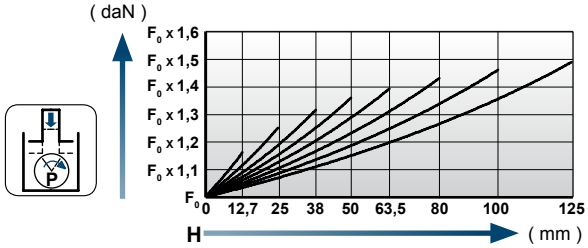


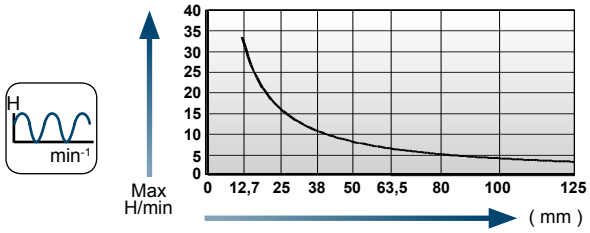


NC.061.10.01500.080

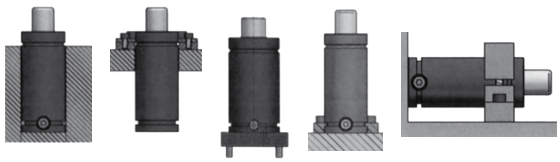
H Hub / Stroke	L ±0,25	LG	Kraft / Force (75 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	145,4	132,7	1470	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	170	145	1470	
038	196	158	1470	
050	220	170	1470	
063,5	247	183,5	1470	
080	280	200	1470	
100	320	220	1470	
125	370	245	1470	





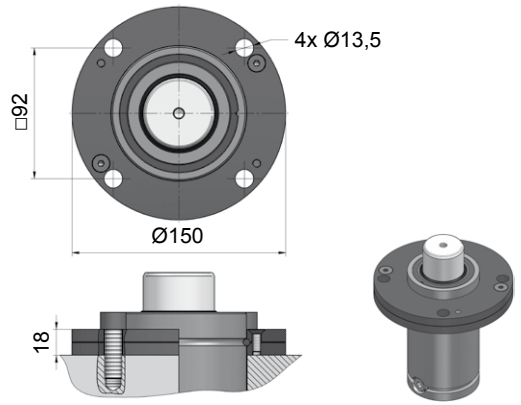


Einbaubeispiele / Flange mounting options

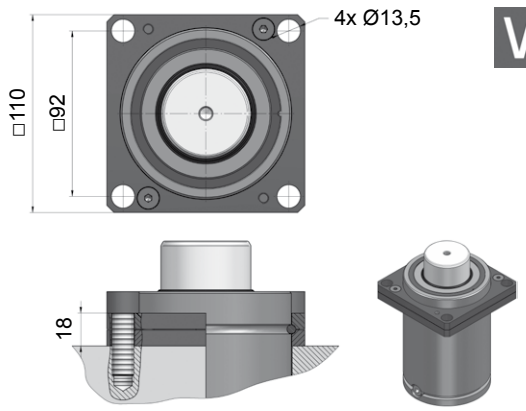


[NC]

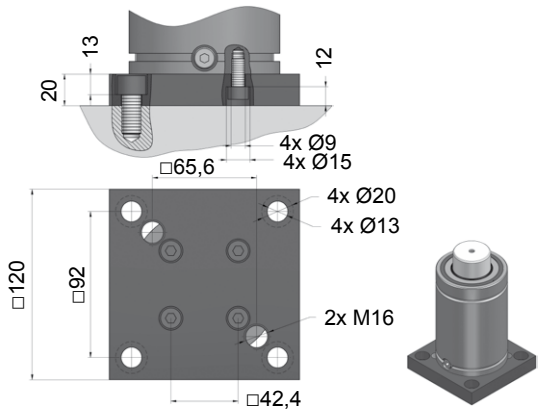
Flansche für / Flanges for **NC.061.10.01500**



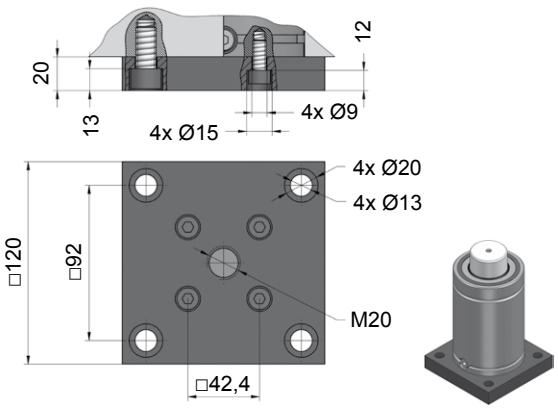
NC.88.00.095.0114



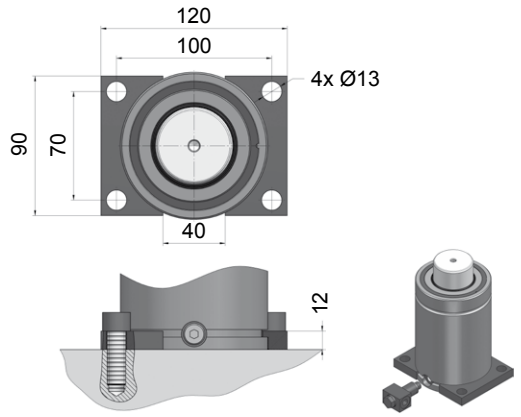
NC.88.00.095.0134



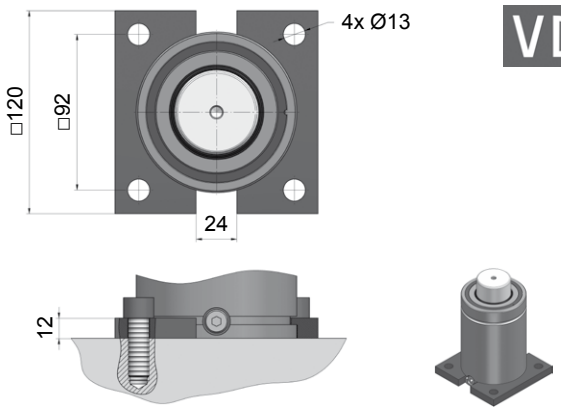
NC.88.00.095.0221



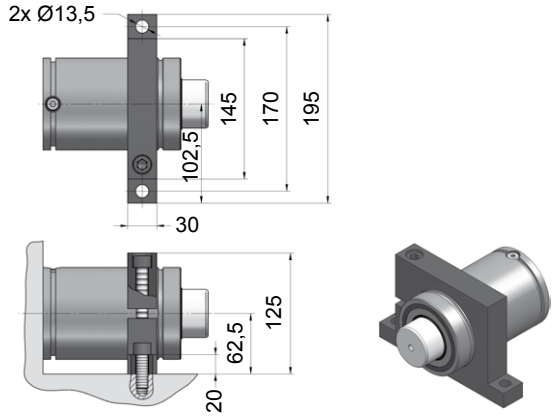
NC.88.00.095.0276



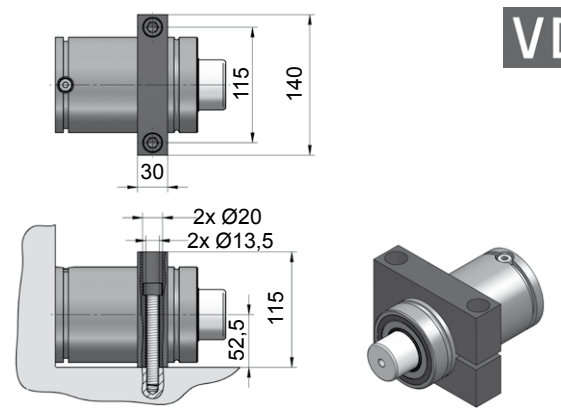
NC.88.00.095.0305



NC.88.00.095.0320



NC.88.00.095.0402



NC.88.00.095.0467

NC.061.10.03000

Technische Daten:

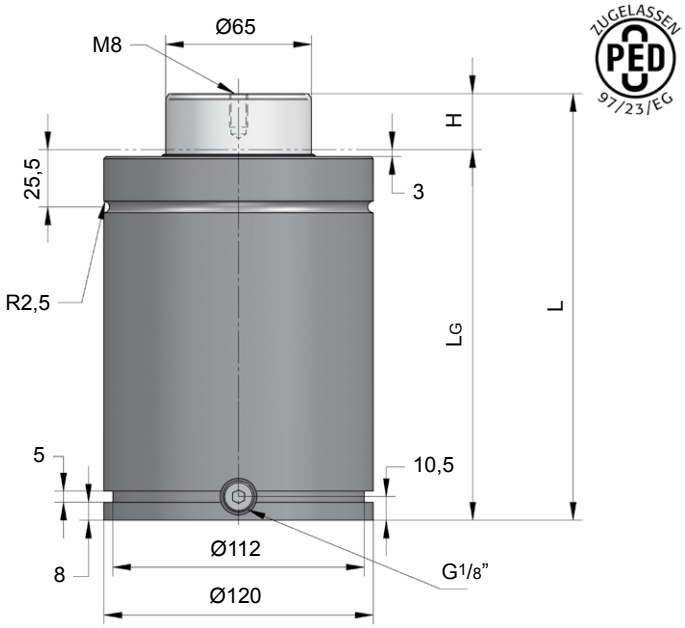
Medium:	N_2
$P_{max.}$ (20 °C):	90 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

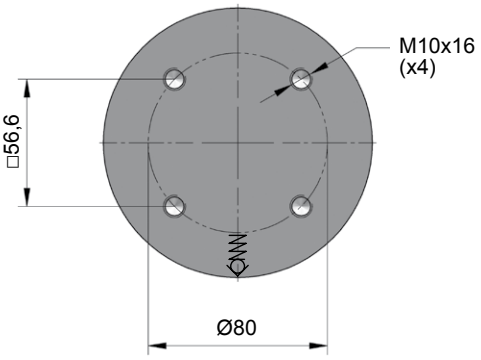
Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
K = 0,131 x Arbeitshub in (mm)
Verzögerungszeit bei Bestellung bitte angeben.

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	90 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

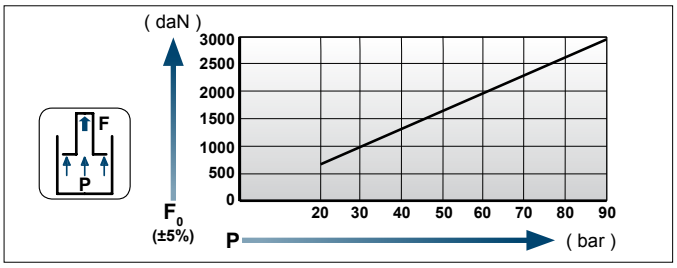
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
K = 0,131 x working stroke (mm)
When ordering please specify the real working stroke and the desired time of delay.

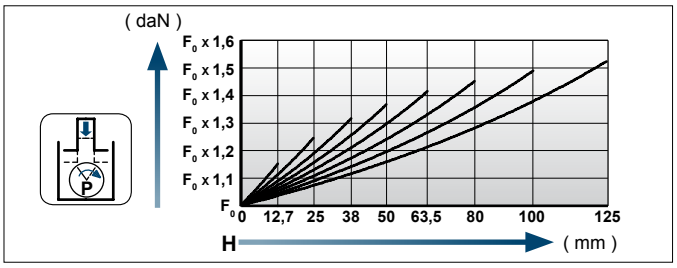


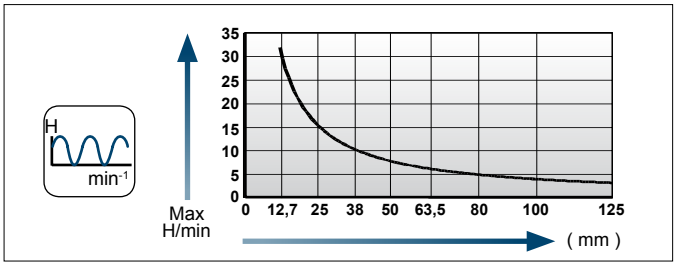


NC.061.10.03000.080

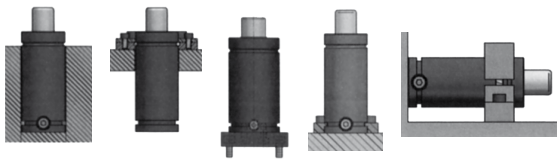
H Hub / Stroke	L ±0,25	LG	Kraft / Force (90 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	165,4	152,7	2985	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	190	165	2985	
038	216	178	2985	
050	240	190	2985	
063,5	267	203,5	2985	
080	300	220	2985	
100	340	240	2985	
125	390	265	2985	



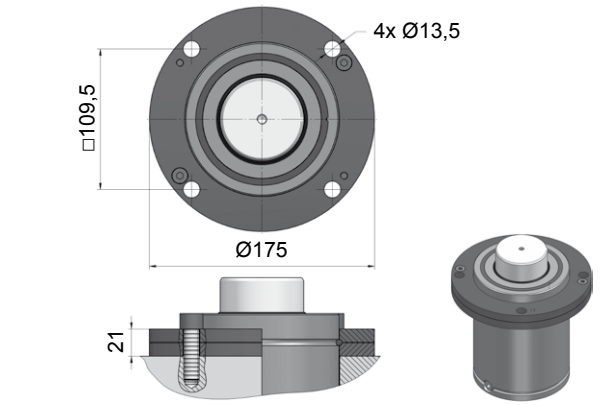




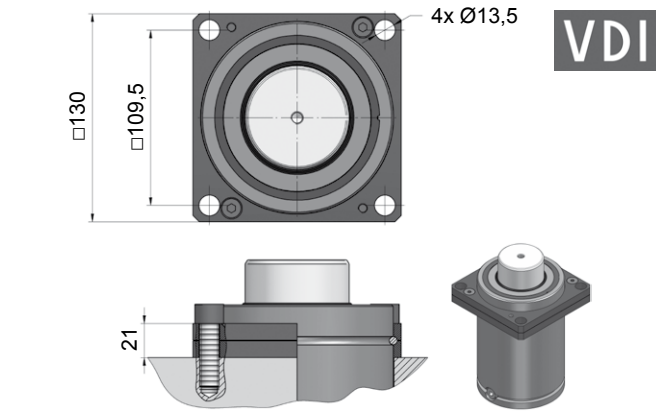
Einbaubeispiele / Flange mounting options



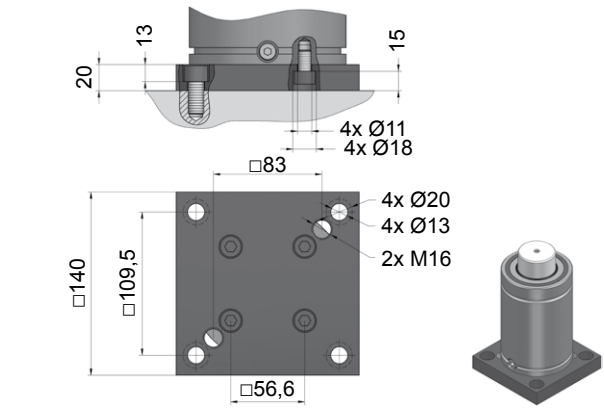
Flansche für / Flanges for **NC.061.10.03000**



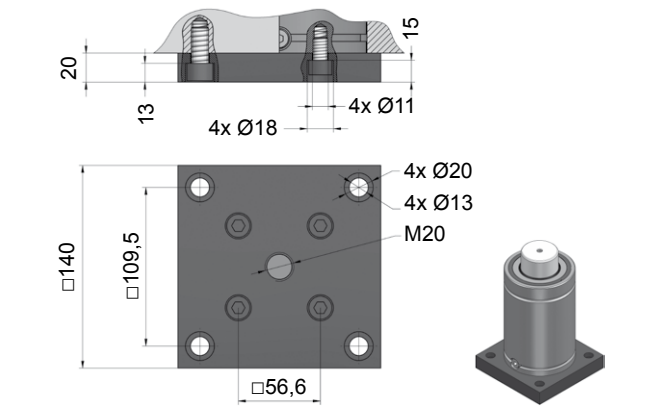
NC.88.00.120.0114



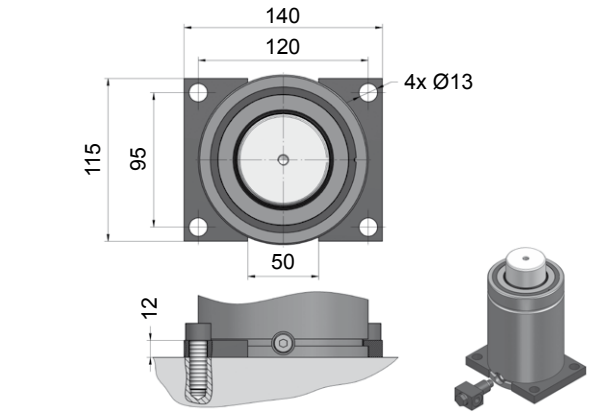
NC.88.00.120.0134



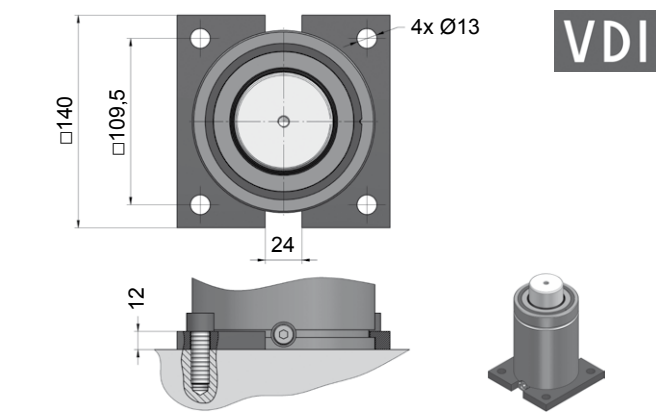
NC.88.00.120.0221



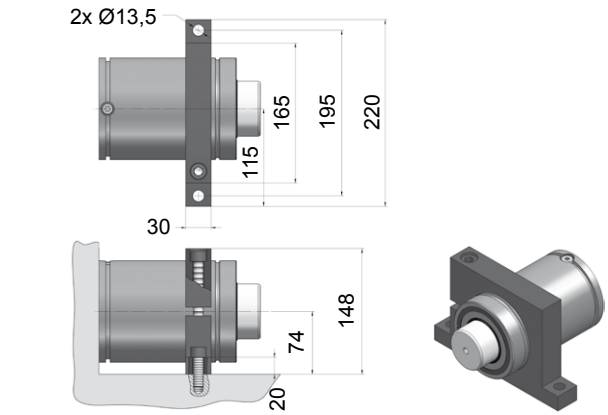
NC.88.00.120.0276



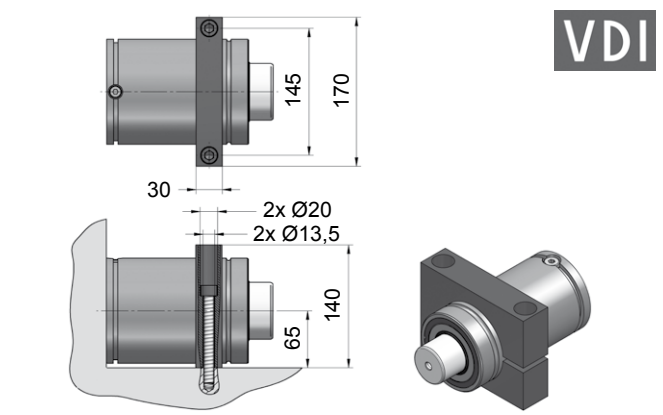
NC.88.00.120.0305



NC.88.00.120.0320



NC.88.00.120.0402



NC.88.00.120.0467

NC.061.10.05000

Technische Daten:

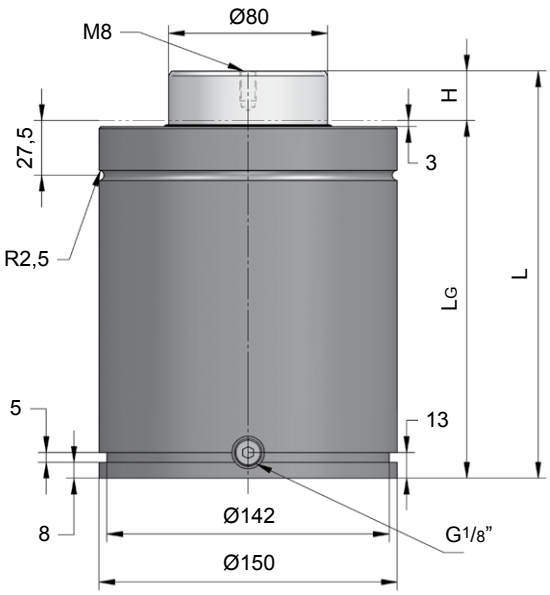
Medium:	N_2
$P_{max.}$ (20 °C):	100 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

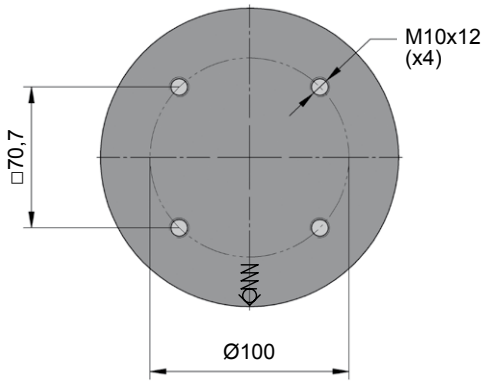
Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	100 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
K = 0,214 x Arbeitshub in (mm)
Verzögerungszeit bei Bestellung bitte angeben.

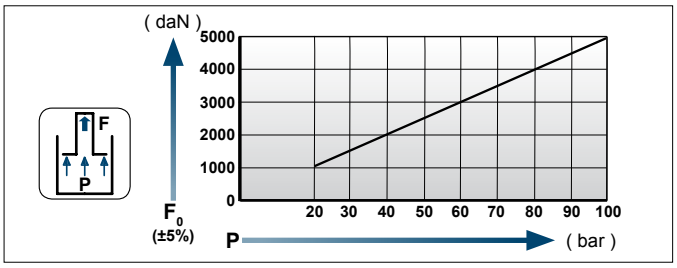
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
K = 0,214 x working stroke (mm)
When ordering please specify the real working stroke and the desired time of delay.

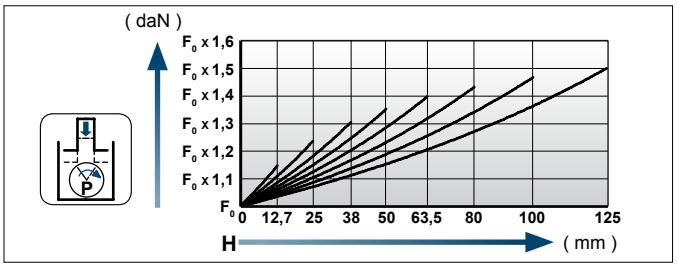


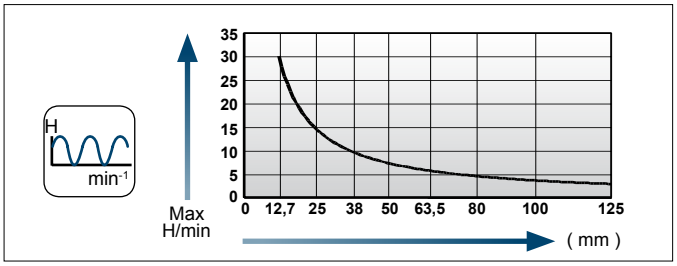


NC.061.10.05000.100

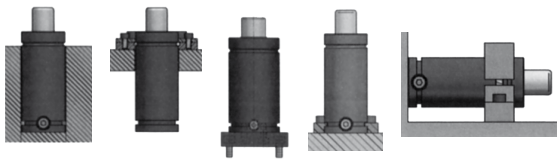
H Hub / Stroke	L ±0,25	LG	Kraft / Force (100 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	180,4	167,7	5025	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	205	180	5025	
038	231	193	5025	
050	255	205	5025	
063,5	282	218,5	5025	
080	315	235	5025	
100	355	255	5025	
125	405	280	5025	





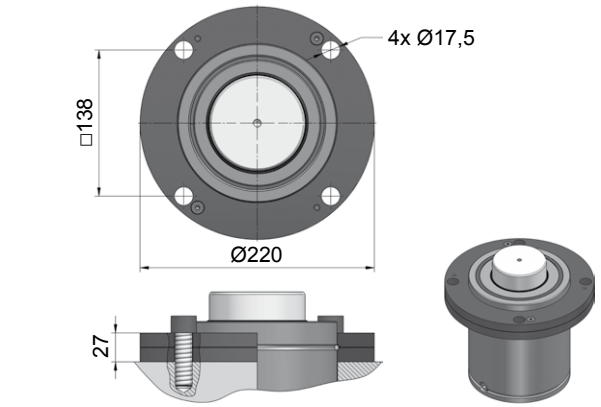


Einbaubeispiele / Flange mounting options

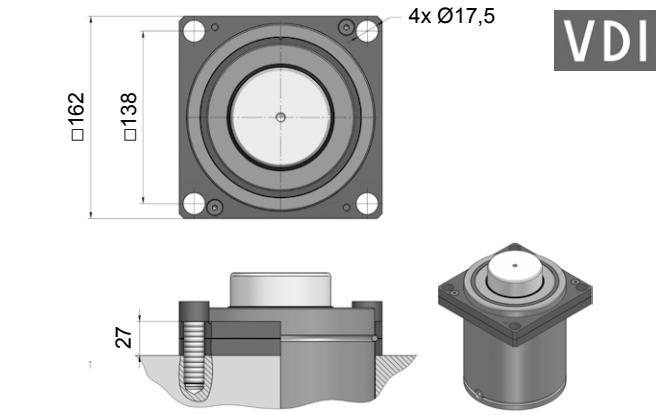


[NC]

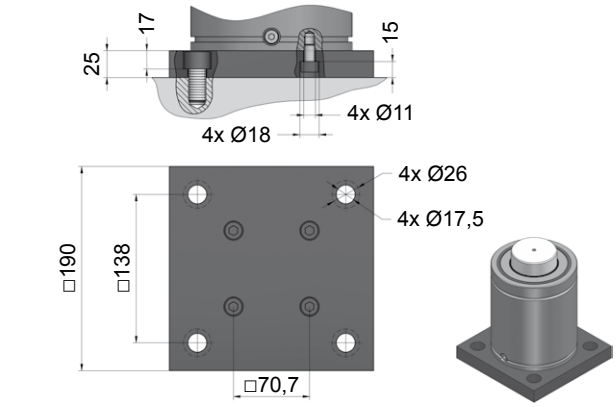
Flansche für / Flanges for **NC.061.10.05000**



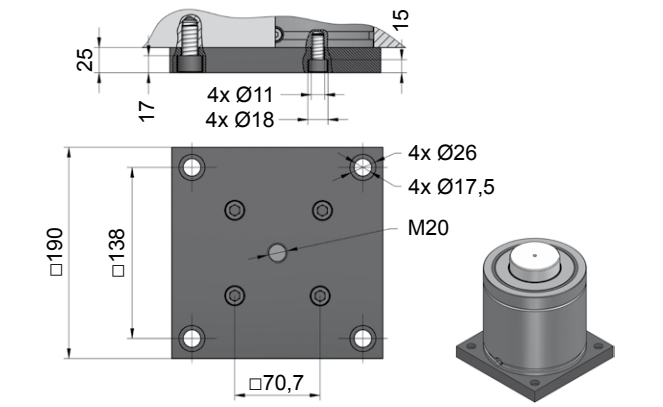
NC.88.00.150.0114



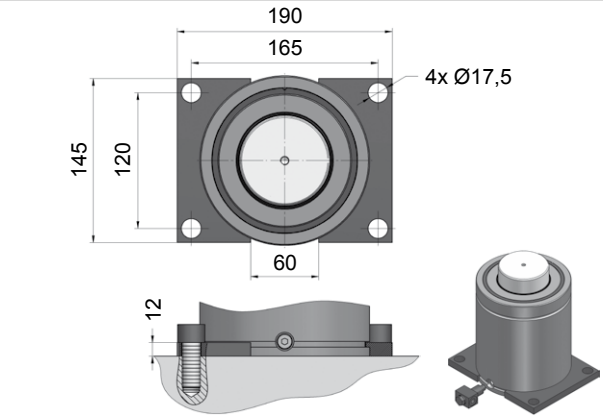
NC.88.00.150.0134



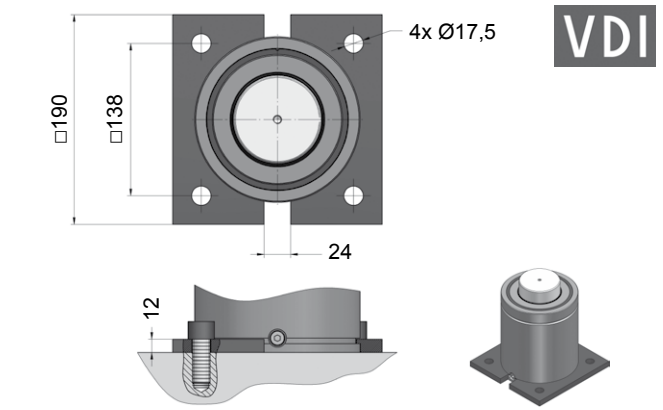
NC.88.00.150.0221



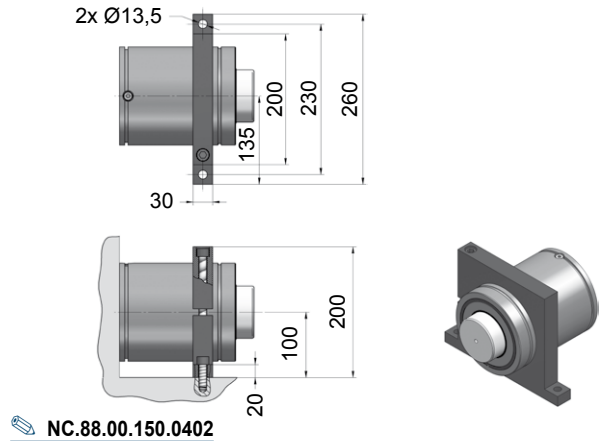
NC.88.00.150.0276



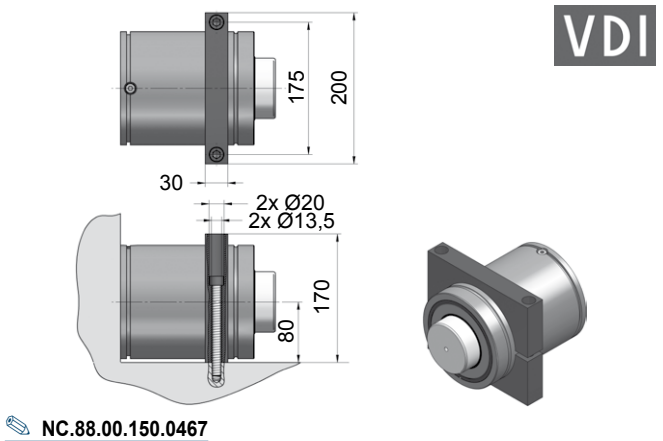
NC.88.00.150.0305



NC.88.00.150.0320



NC.88.00.150.0402



NC.88.00.150.0467

NC.061.10.07500

Technische Daten:

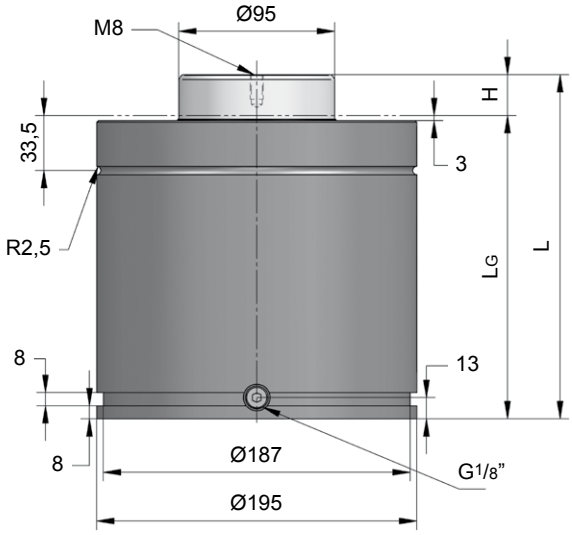
Medium:	N_2
$P_{max.}$ (20 °C):	105 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

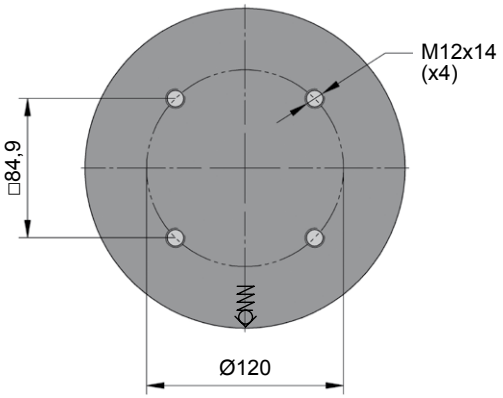
Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	105 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
K = 0,289 x Arbeitshub in (mm)
Verzögerungszeit bei Bestellung bitte angeben.

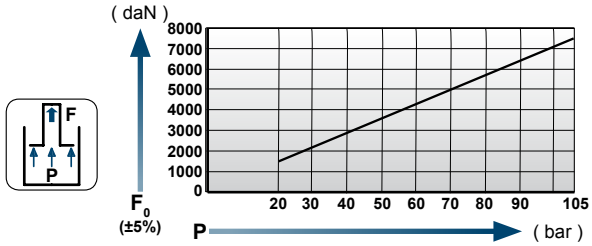
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
K = 0,289 x working stroke (mm)
When ordering please specify the real working stroke and the desired time of delay.

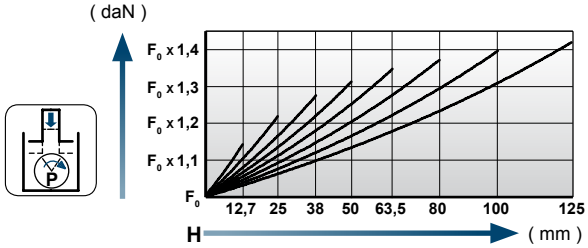


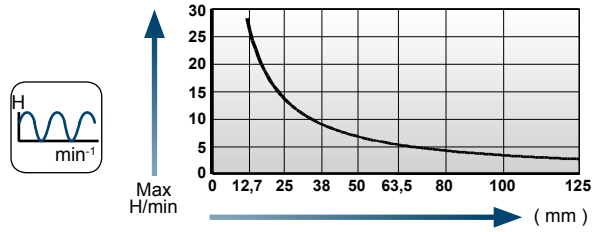


NC.061.10.07500.125

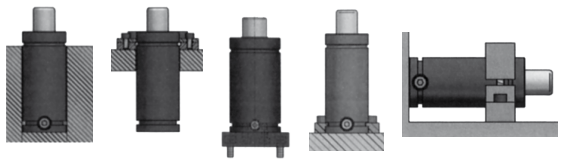
H Hub / Stroke	L ±0,25	LG	Kraft / Force (105 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	185,4	172,7	7440	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	210	185	7440	
038	236	198	7440	
050	260	210	7440	
063,5	287	223,5	7440	
080	320	240	7440	
100	360	260	7440	
125	410	285	7440	







Einbaubeispiele / Flange mounting options



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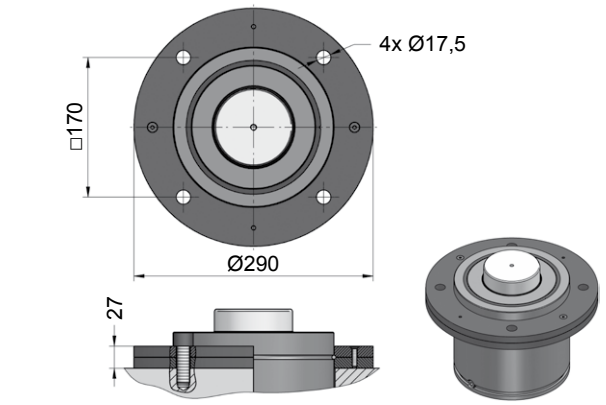
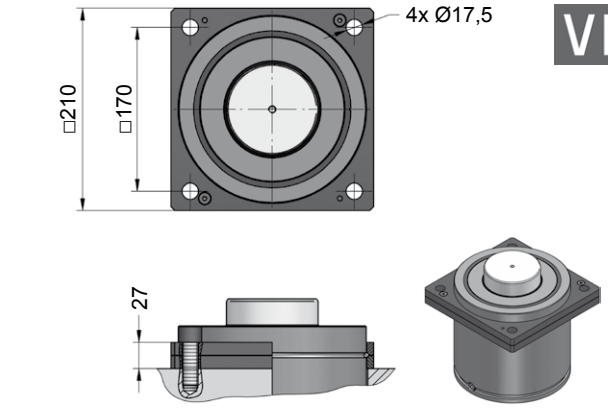
Flansche für / Flanges for **NC.061.10.07500**



NC.88.00.195.0114



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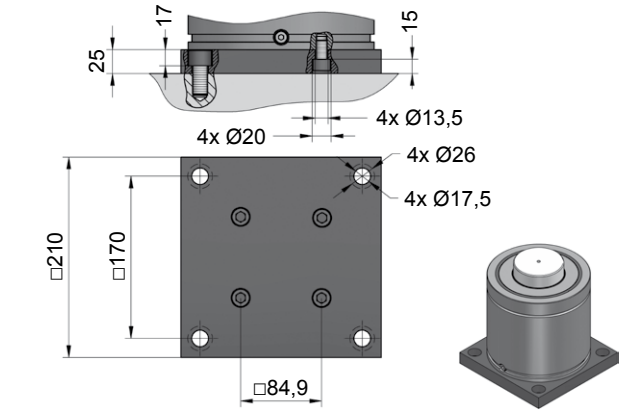

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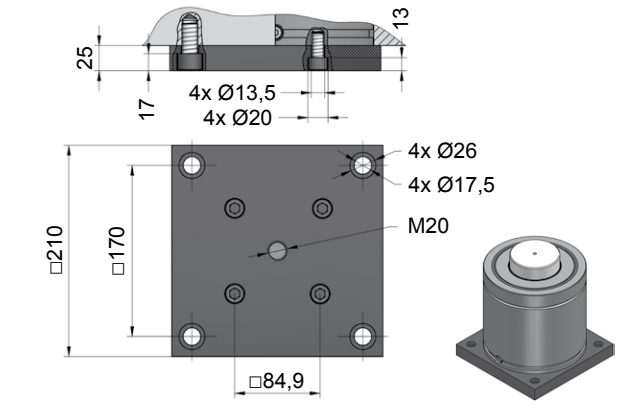

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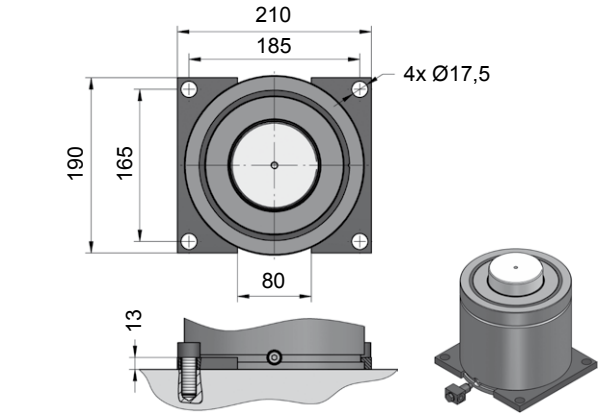
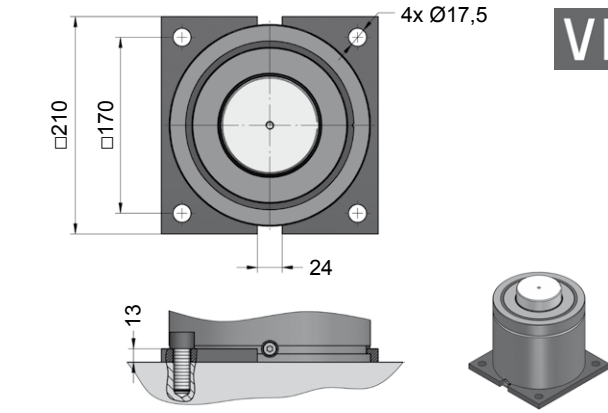
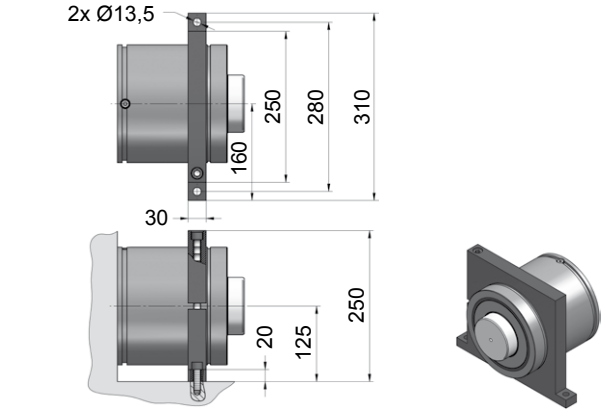


NC.88.00.195.0305



NC.88.00.195.0320



NC.88.00.195.0402

Technische Information Serie NC.064.10

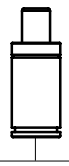
Bei der Serie **NC.064.10** handelt es sich um kompakte Gasdruckfedern, die nach VDI 3003 gefertigt werden. Sie sind von der Körpergröße her baugleich mit der Serie **NC.060.10**, werden aber mit Kolbenstangen ausgestattet, die einen größeren Durchmesser aufweisen.
Dadurch wird erreicht, dass sie bei gleichen Abmessungen über höhere Kräfte verfügen.
Letztendlich können auf diese Weise im Werkzeugbau Gasdruckfedern eingespart werden, was zu erheblicher Kostenersparnis führt.
Die Serie **NC.064.10** verfügt über acht Größen von 300 daN bis 18500 daN Anfangskraft. Bei einer maximalen Arbeitstemperatur von 80 °C und einer maximalen Kolbengeschwindigkeit von 1,6 m/s sind diese Zylinder universell einsetzbar.

Technical information NC.064.10 series

NC.064.10 are compact gas springs according to VDI 3003.
Body size is identical to **NC.060.10**, but the rod diameters are larger. This results in higher forces, even if the required space is the same.
By using these springs their quantity can be reduced, bottom line are cost savings.
The **NC.064.10**-series is available in 8 sizes between 300 daN and 18500 daN initial nominal force.
At a maximum working temperature of 80 degrees C and max. rod speed of 1,6 m/s they are universally useable.

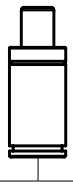
Größenübersicht Serie NC.064.10

Gas spring index 064.10 series



NC.064.10.00300...1
300 daN
10 - 125 mm
Ø32

NC.064.10.00500
495 daN
10 - 125 mm
Ø38



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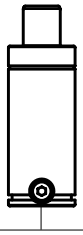
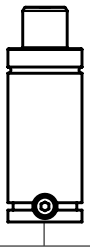
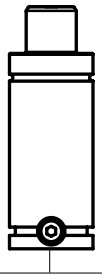
470 daN
10 - 125 mm
Ø38



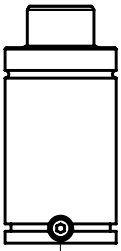
NC.064.10.00700
690 daN
12,7 - 160 mm
Ø45



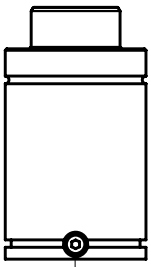
NC.064.10.01000
990 daN
13 - 300 mm
Ø50



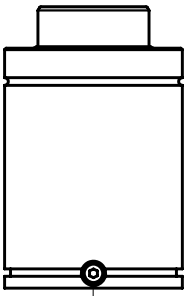
NC.064.10.01500
1530 daN
25 - 200 mm
Ø63



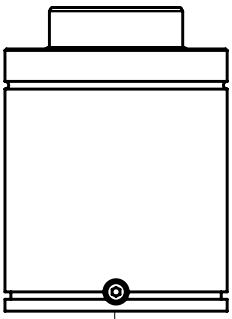
NC.064.10.02400
2385 daN
25 - 300 mm
Ø75



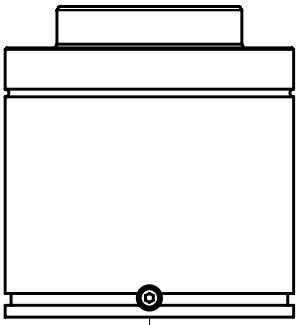
NC.064.10.04200
4240 daN
25 - 300 mm
Ø95



NC.064.10.06600
6630 daN
25 - 300 mm
Ø120

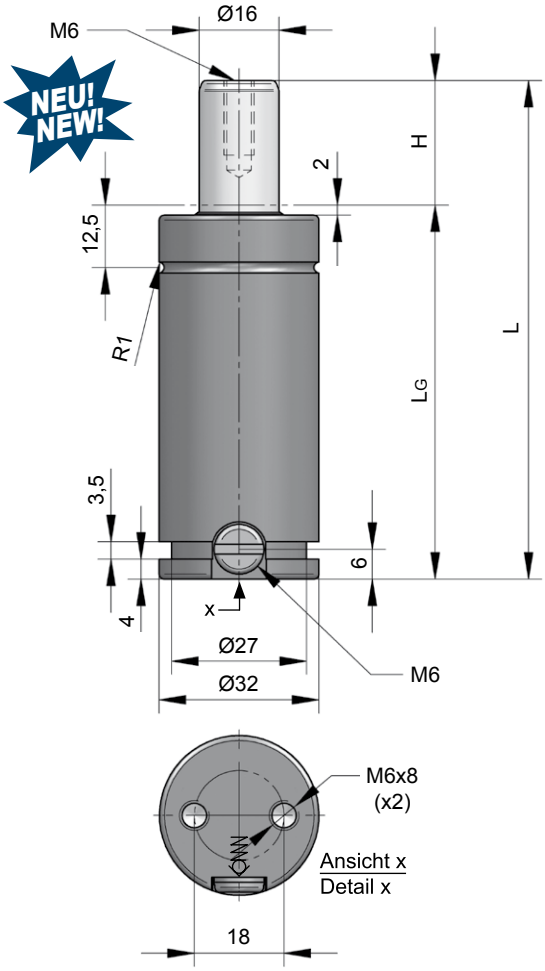


NC.064.10.09600
9540 daN
25 - 300 mm
Ø150



NC.064.10.18500
18410 daN
25 - 300 mm
Ø195

NC.064.10.00300...1



Technische Data:

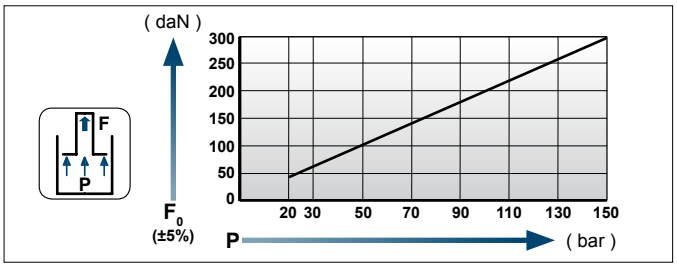
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

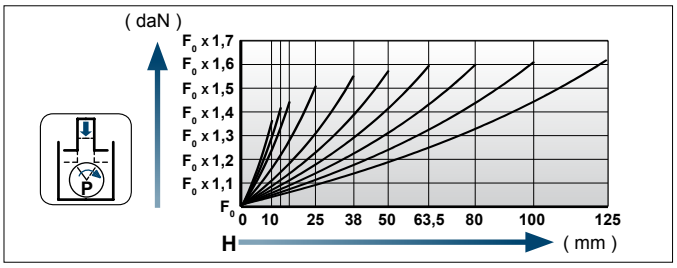
Specifications:

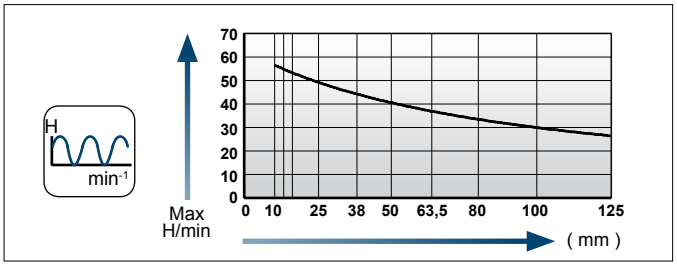
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.064.10.00300.010.1

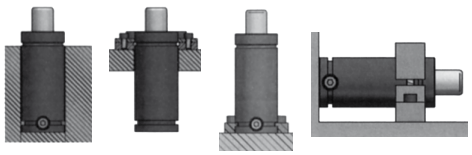
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	300	
016	82	66	300	
025	100	75	300	
038	126	88	300	
050	150	100	300	
063,5	177	113,5	300	
080	210	130	300	
100	250	150	300	
125	300	175	300	







Einbaubeispiele / Flange mounting options



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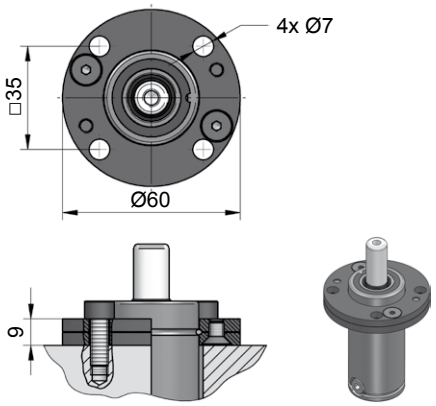
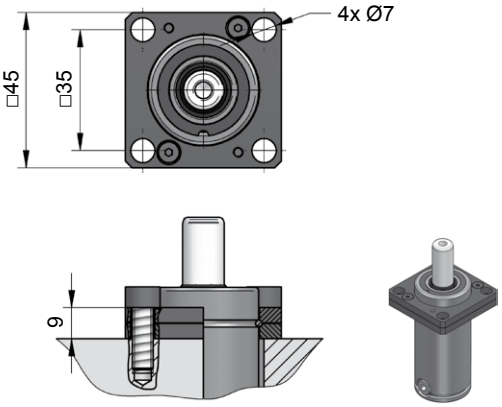
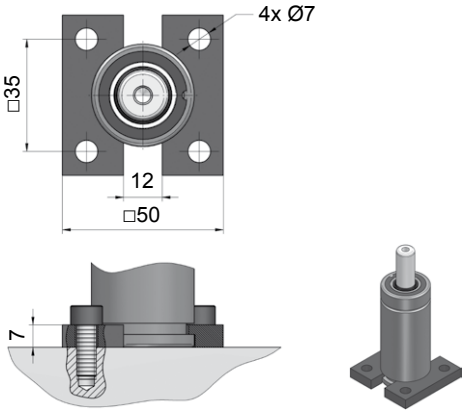
Flansche für / Flanges for **NC.064.10.00300…1**



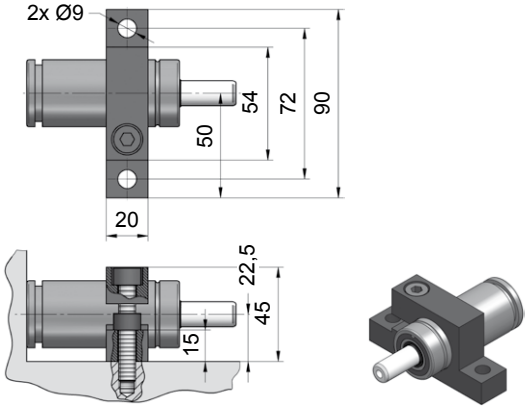
NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0320



NC.88.00.032.0402

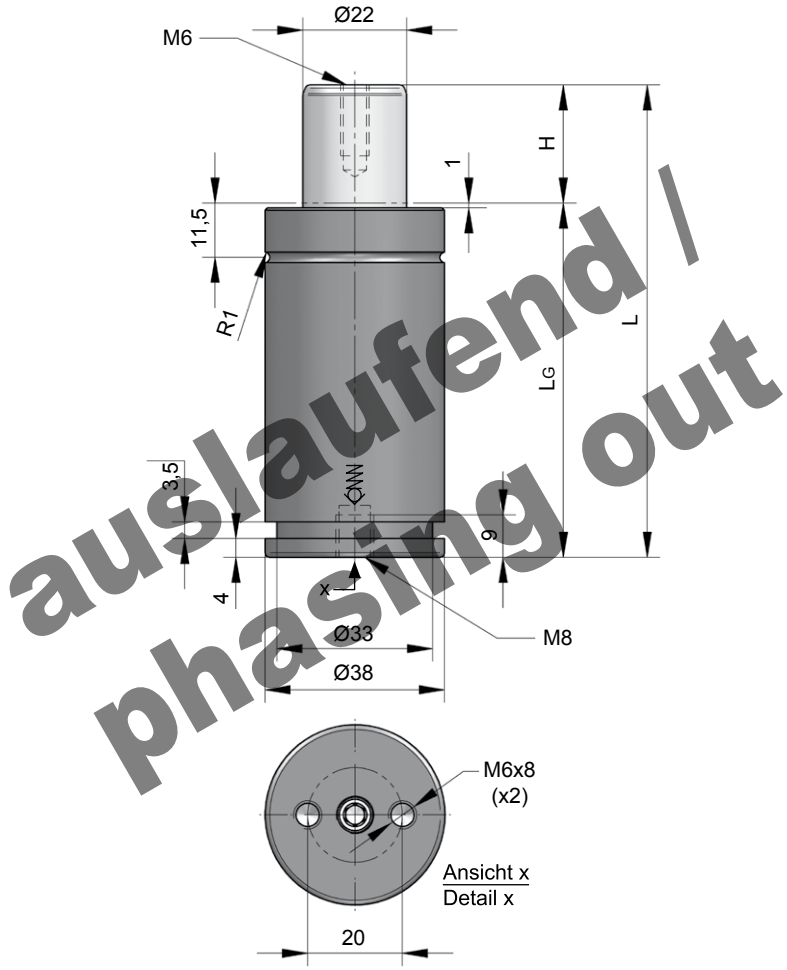
NC.064.10.00500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s



auslaufend / phasing out

NC.064.10.
00500.010

H Hub / Stroke	L ±0,25	LG	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	495	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	495	
016	82	66	495	
025	100	75	495	
038	126	88	495	
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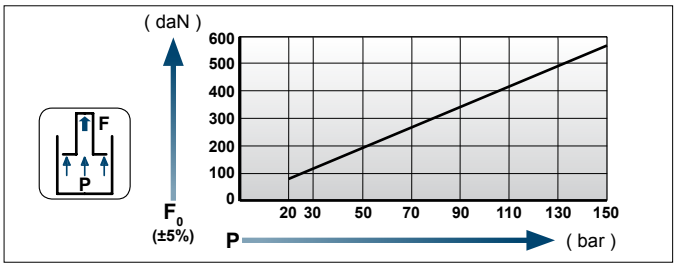
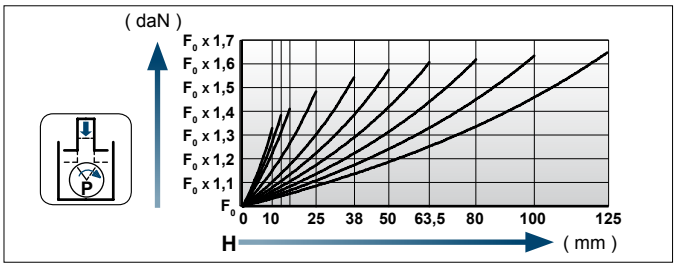
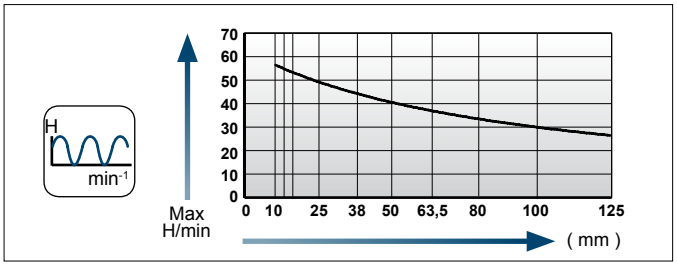
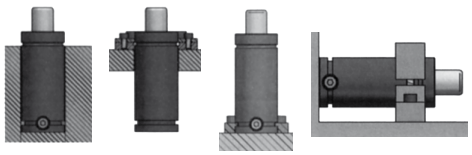
063,5	177	113,5	495	
080	210	130	495	
100	250	150	495	
125	300	175	495	



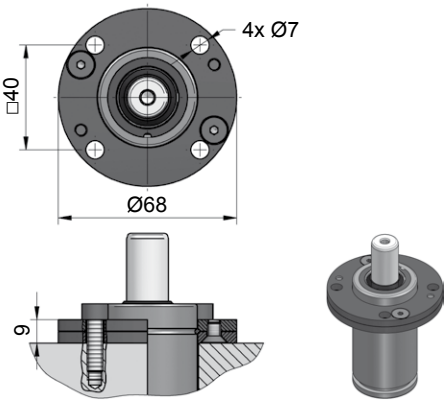




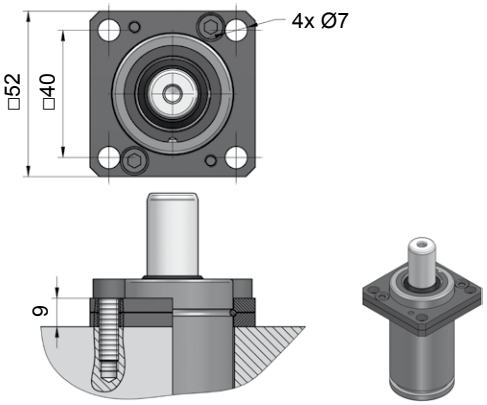
Einbaubeispiele / Flange mounting options



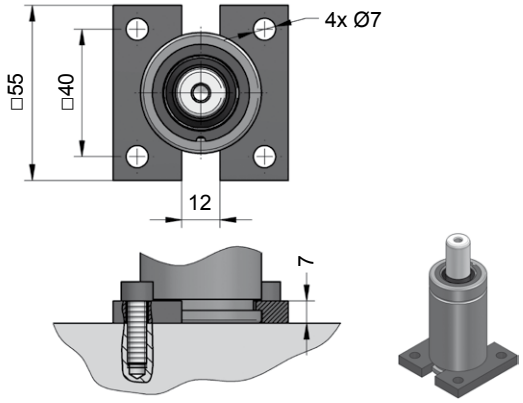
Flansche für / Flanges for **NC.064.10.00500**



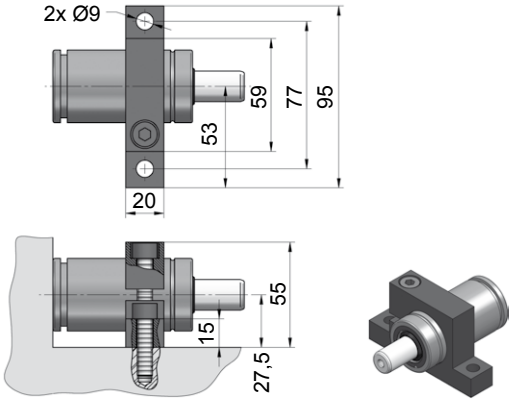
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0320



NC.88.00.038.0402

NC.064.10.00500...1

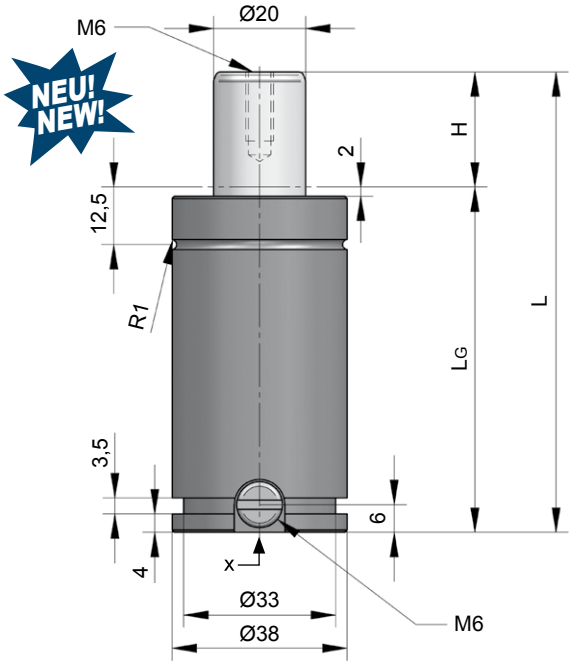
NEU! NEW!

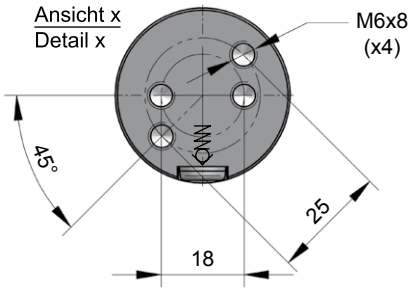
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s





NC.064.10.
00500.010.1

H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	470	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	470	
016	82	66	470	
025	100	75	470	
038	126	88	470	
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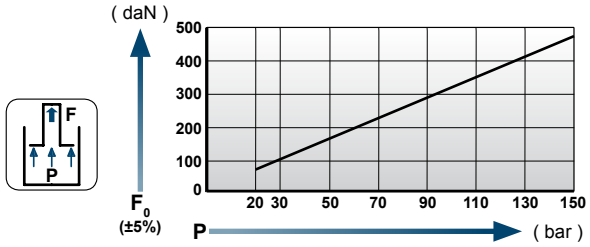
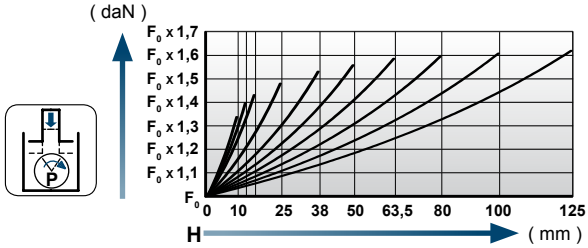
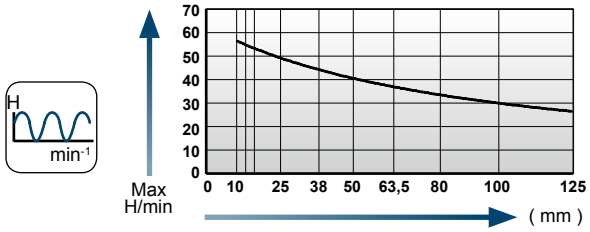
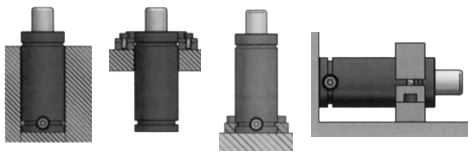
063,5	177	113,5	470	
080	210	130	470	
100	250	150	470	
125	300	175	470	





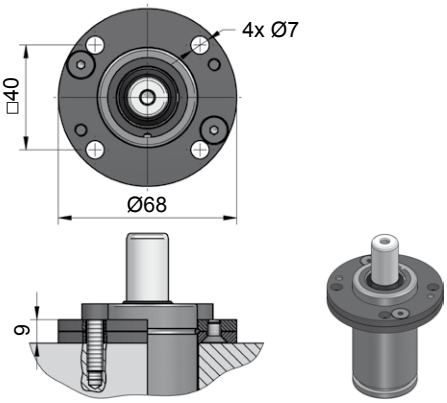


Einbaubeispiele / Flange mounting options

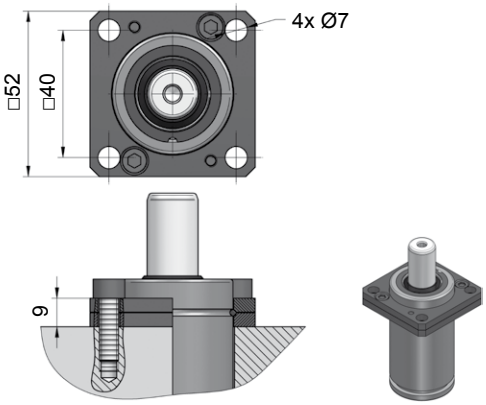


[NC]

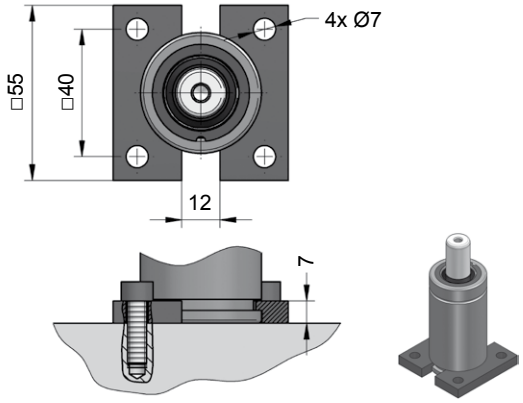
Flansche für / Flanges for **NC.064.10.00500…1**



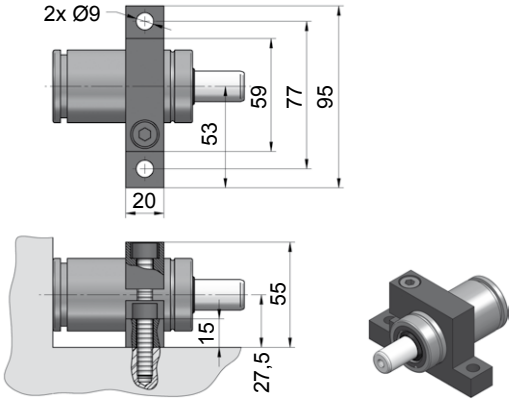
NC.88.00.038.0114



NC.88.00.038.0134



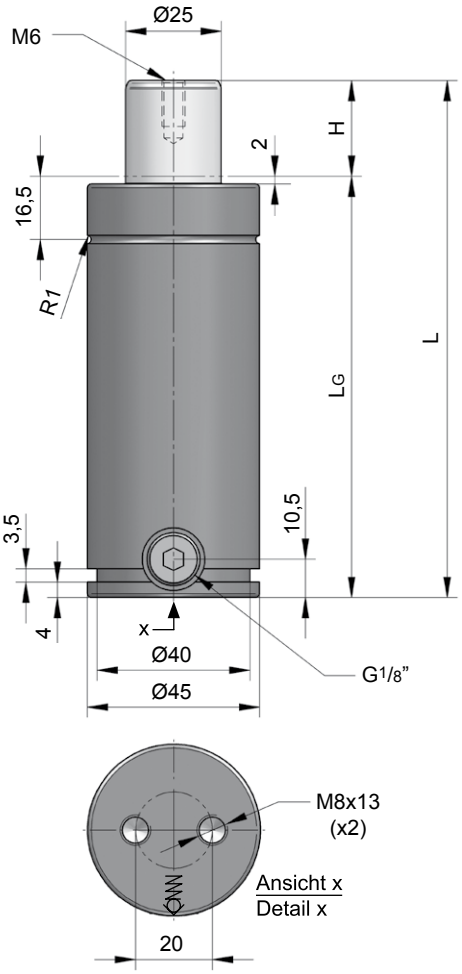
NC.88.00.038.0320



NC.88.00.038.0402

[NC]

NC.064.10.00700



Technische Daten:

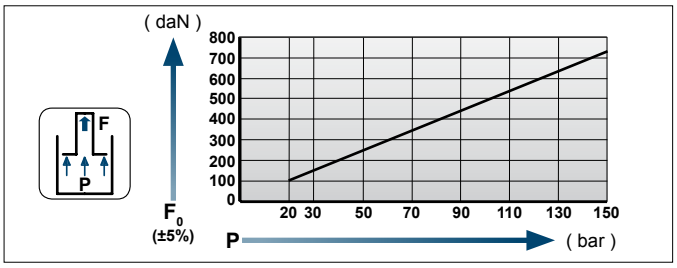
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

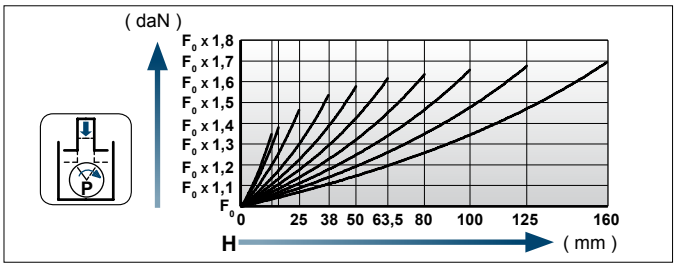
Specifications:

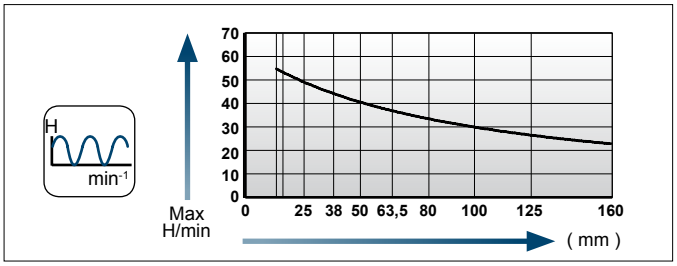
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.064.10.00700.016

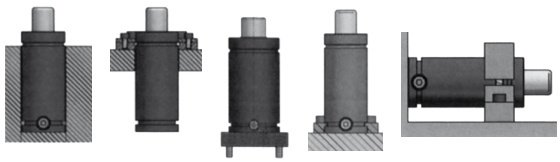
H Hub / Stroke	L ±0,25	LG	Kraft / Force (140 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	110,4	97,7	690	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
016	117	101	690	
025	135	110	690	
038	161	123	690	
050	185	135	690	
063,5	212	148,5	690	
080	245	165	690	
100	285	185	690	
125	335	210	690	
160	405	245	690	







Einbaubeispiele / Flange mounting options



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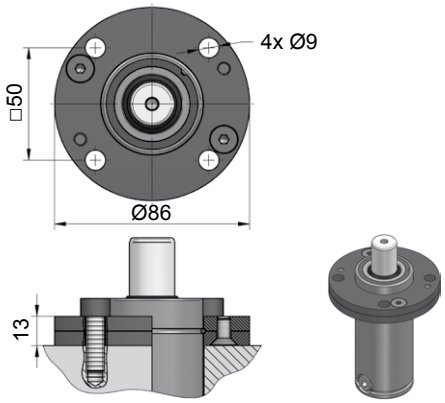
Flansche für / Flanges for **NC.064.10.00700**



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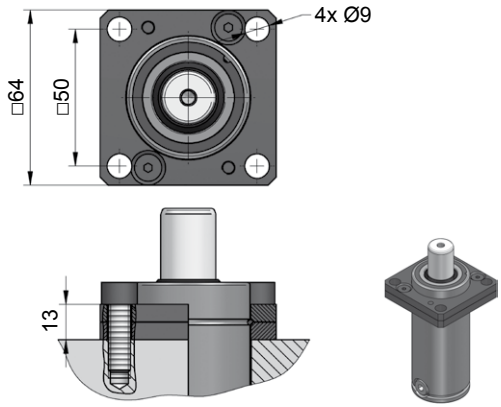
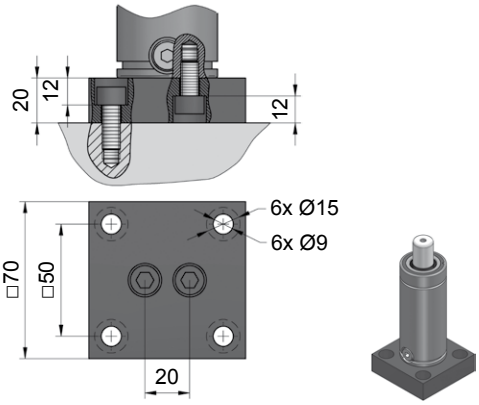


NC.88.00.045.0134



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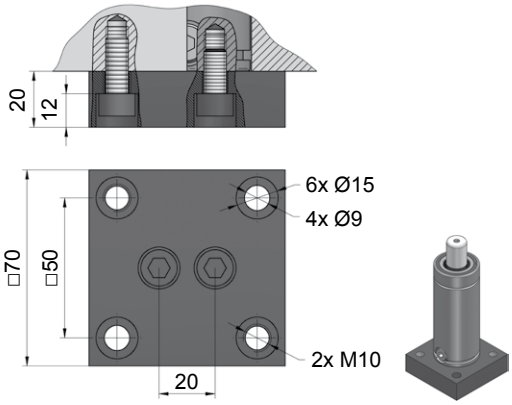

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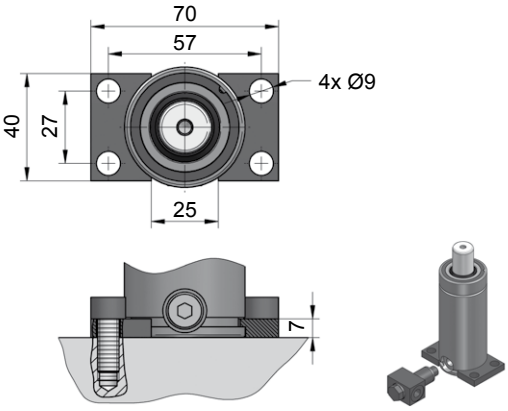
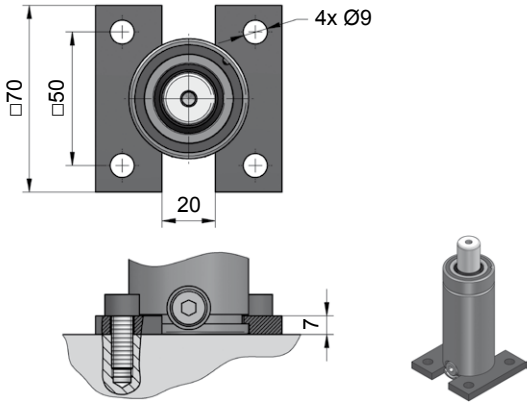
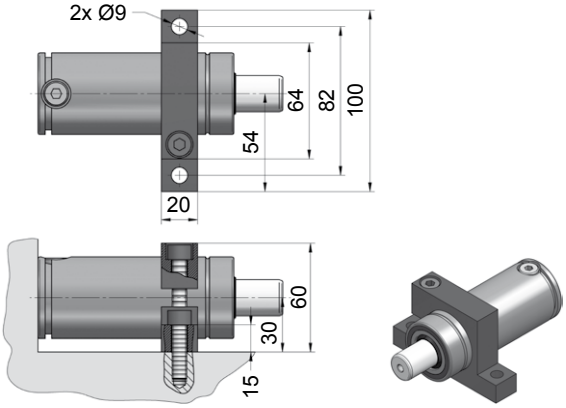


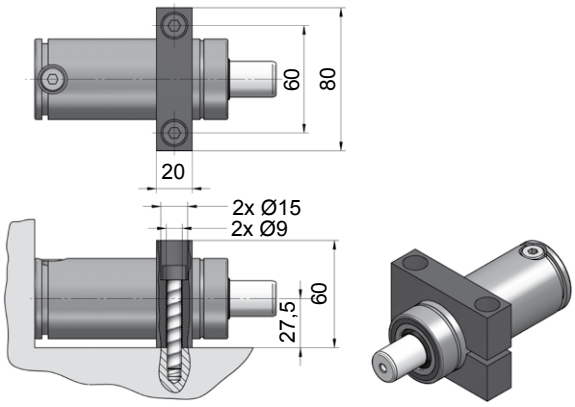
NC.88.00.045.0305



NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

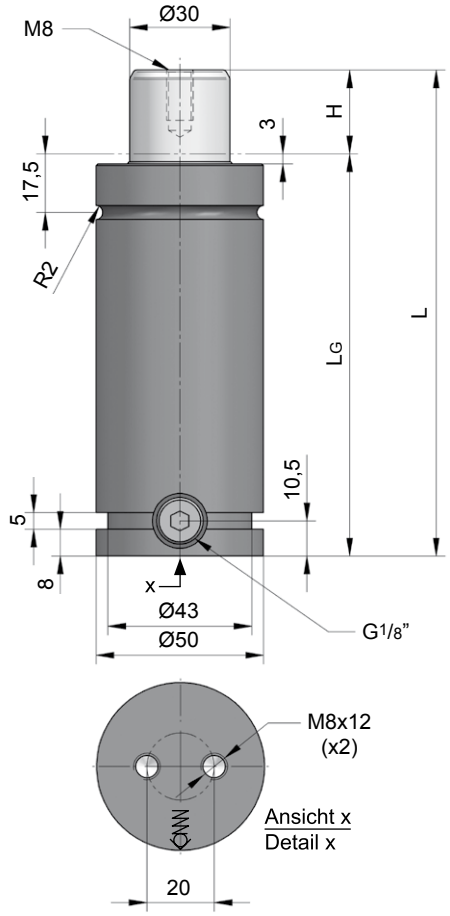
NC.064.10.01000

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

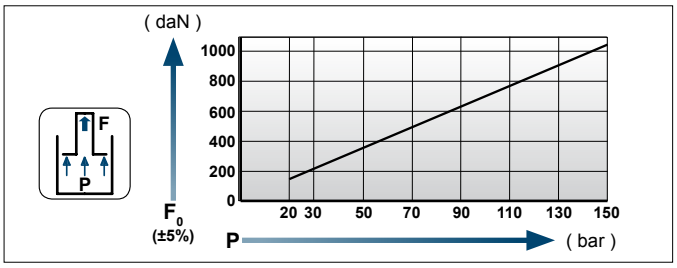
Specifications:

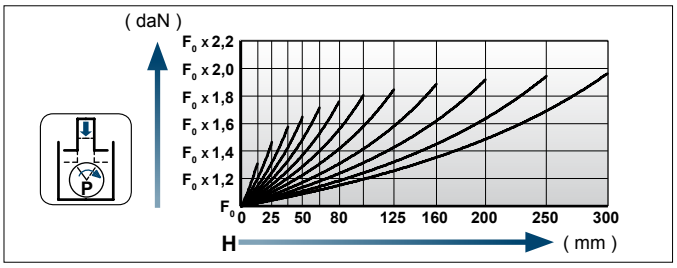
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

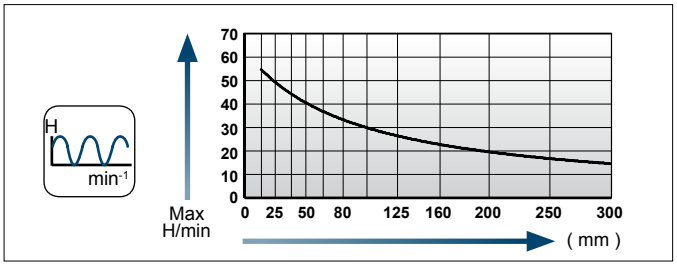


NC.064.10.
01000.038

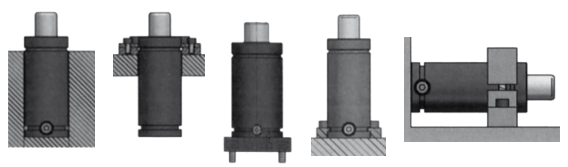
H Hub / Stroke	L ±0,25	LG	Kraft / Force (140 bar) Anfang / Initial [daN]	 Ende / Final [daN]
013	121	108	990	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	145	120	990	
038	171	133	990	
050	195	145	990	
063,5	222	158,5	990	
080	255	175	990	
100	295	195	990	
125	345	220	990	
160	415	255	990	
200	495	295	990	
250	595	345	990	
300	695	395	990	



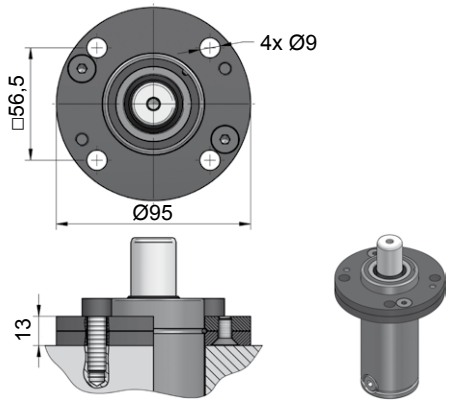




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.064.10.01000**



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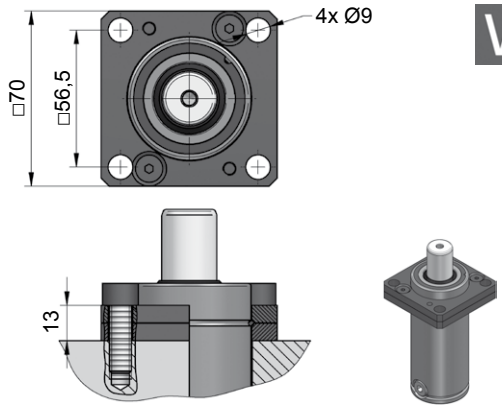

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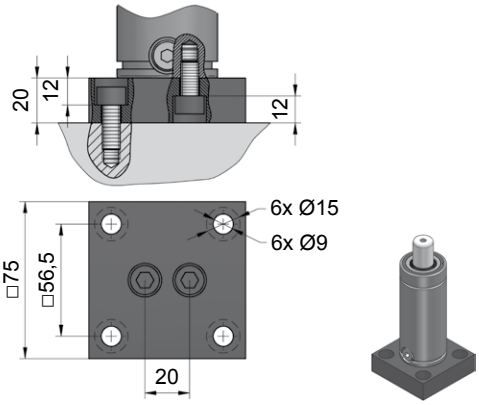
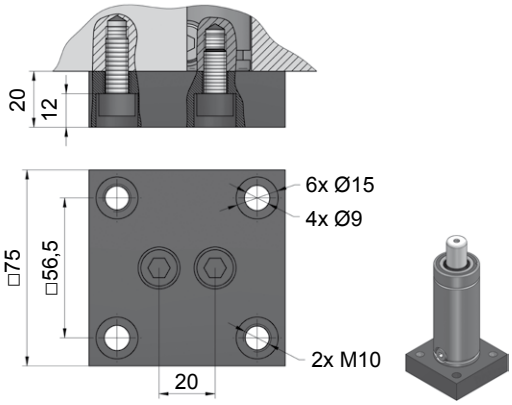


NC.88.00.050.0221



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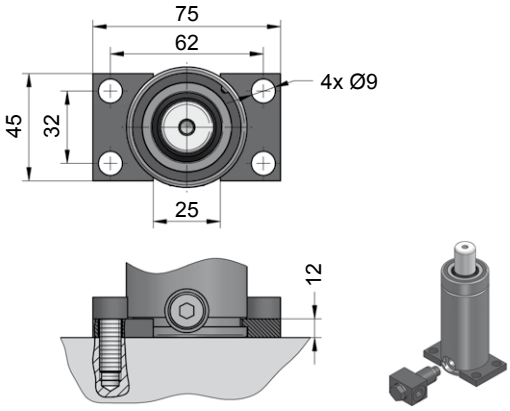
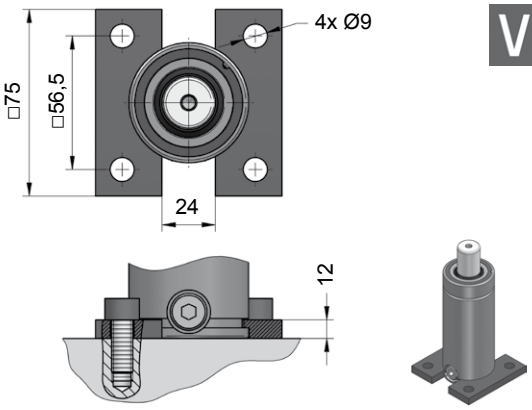


NC.88.00.050.0305



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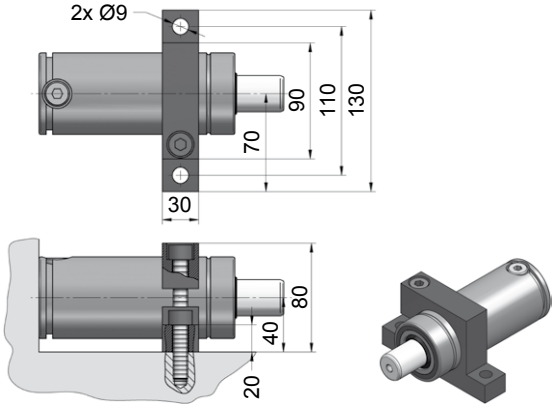
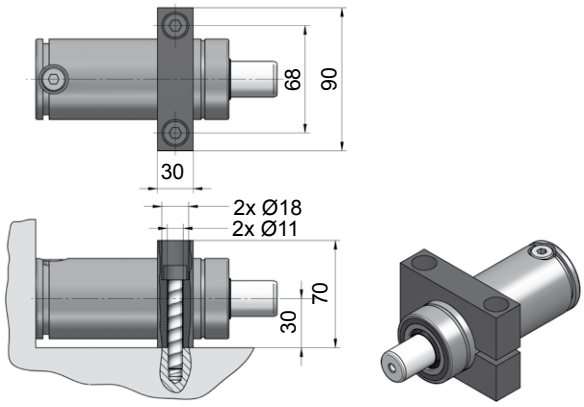


NC.88.00.050.0402



NC.88.00.050.0467

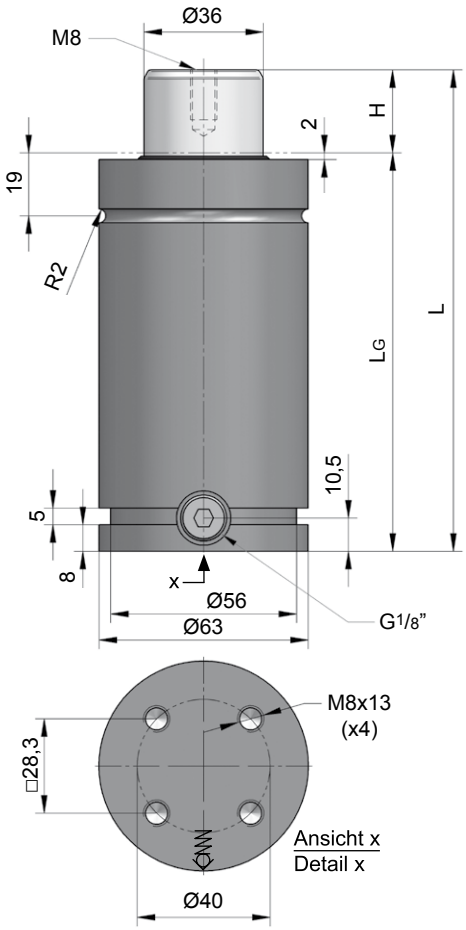
NC.064.10.01500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

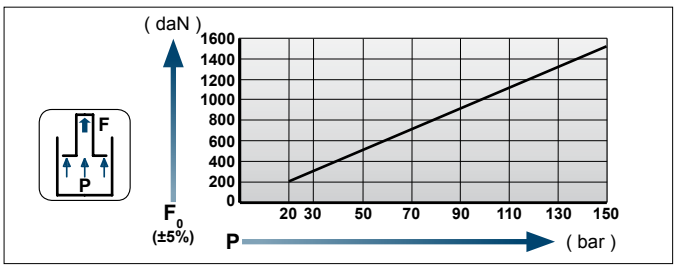
Specifications:

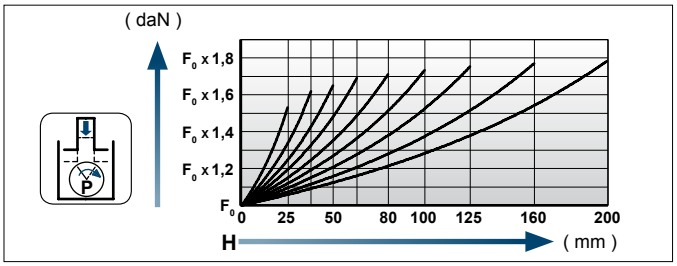
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

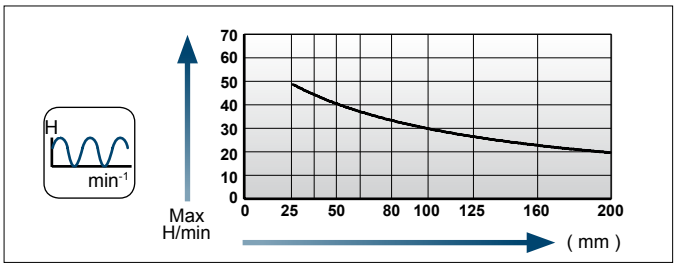


NC.064.10.01500.038

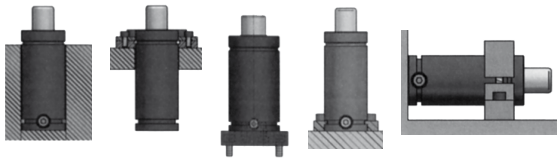
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	145	120	1530	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	171	133	1530	
050	195	145	1530	
063	221	158	1530	
080	255	175	1530	
100	295	195	1530	
125	345	220	1530	
160	415	255	1530	
200	495	295	1530	







Einbaubeispiele / Flange mounting options



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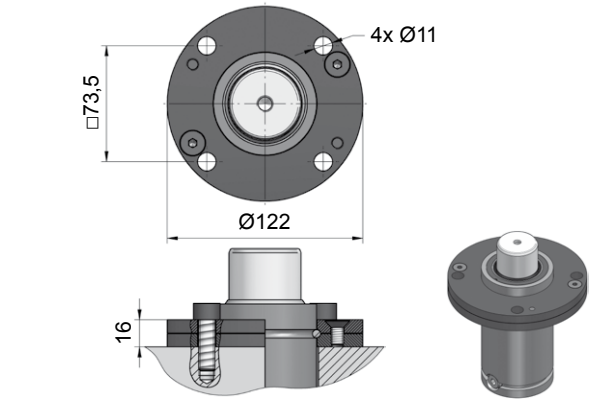
Flansche für / Flanges for **NC.064.10.01500**



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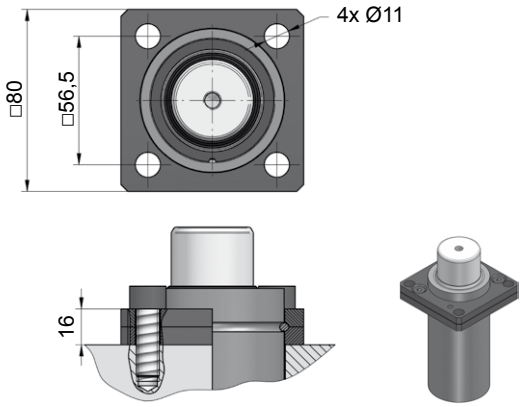

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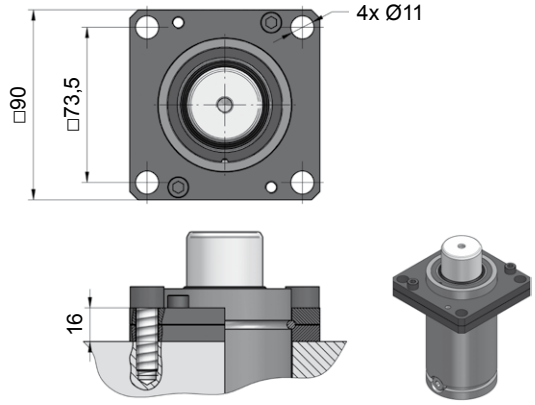

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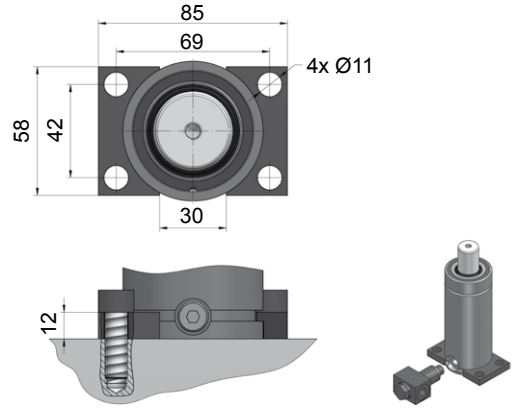

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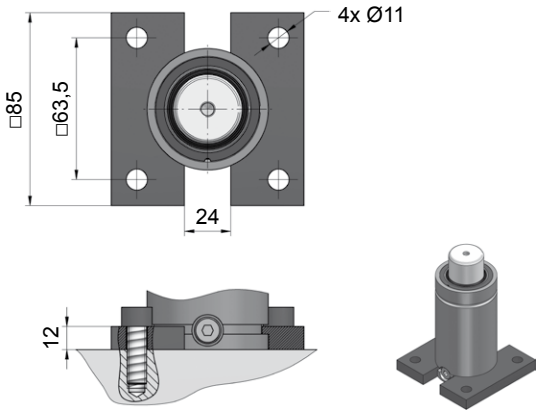
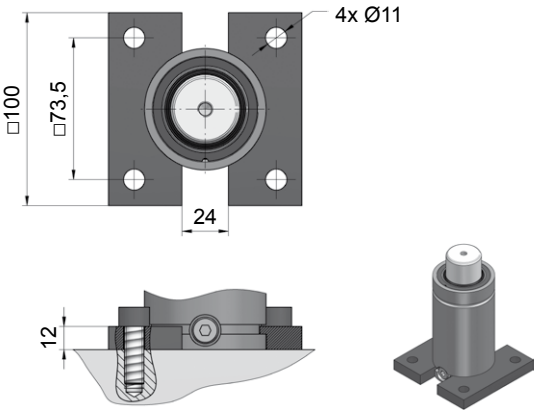


NC.88.00.063.0330



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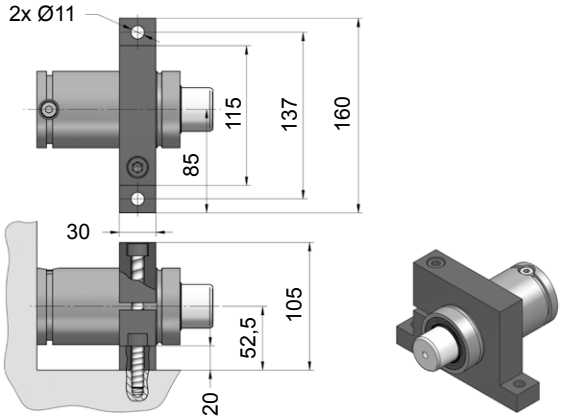
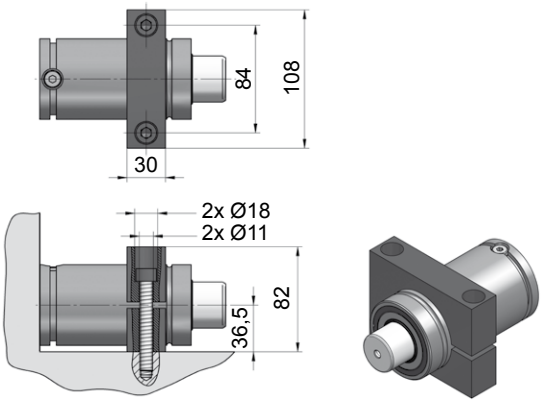


NC.88.00.063.0402



NC.88.00.063.0467

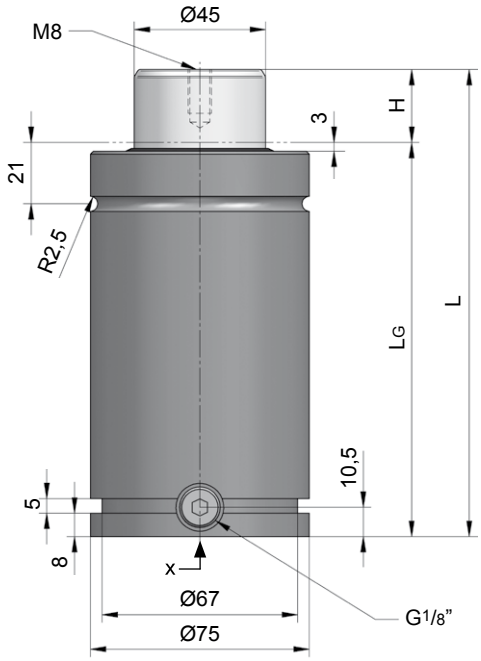
NC.064.10.02400

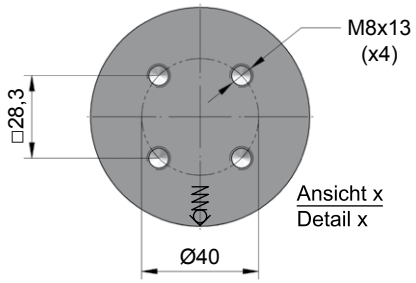
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

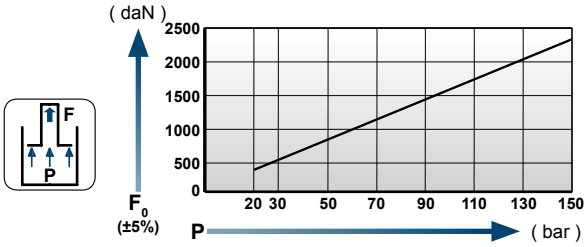
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

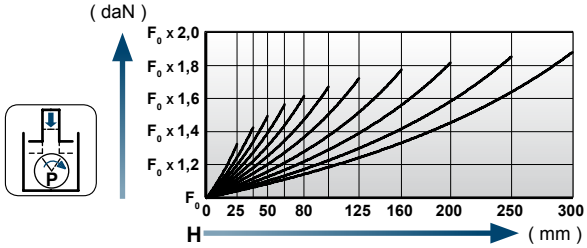


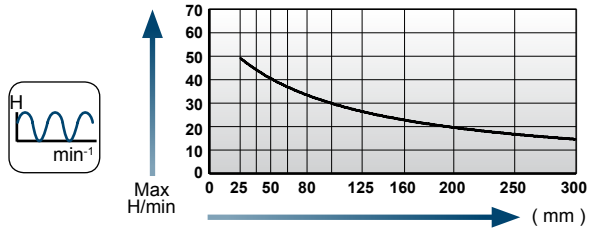


NC.064.10.02400.050

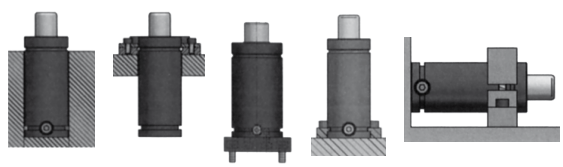
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	160	135	2385	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	186	148	2385	
050	210	160	2385	
063,5	237	173,5	2385	
080	270	190	2385	
100	310	210	2385	
125	360	235	2385	
160	430	270	2385	
200	510	310	2385	
250	610	360	2385	
300	710	410	2385	



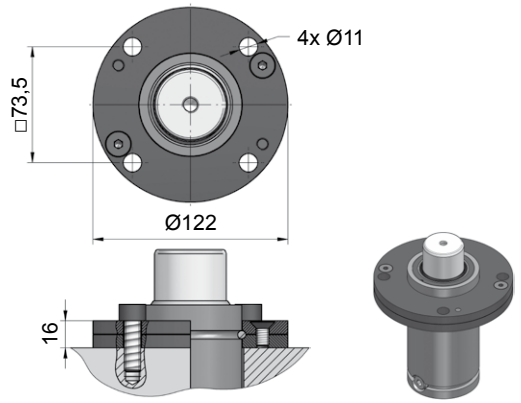




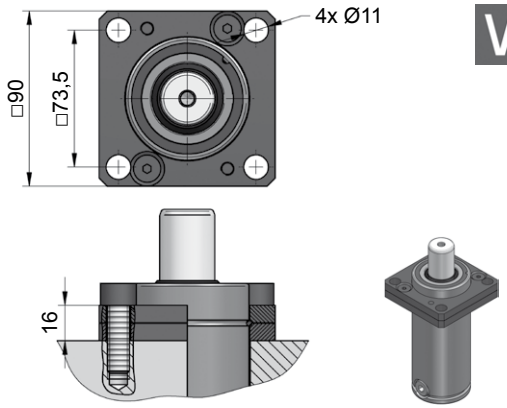
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.064.10.02400**



NC.88.00.075.0114



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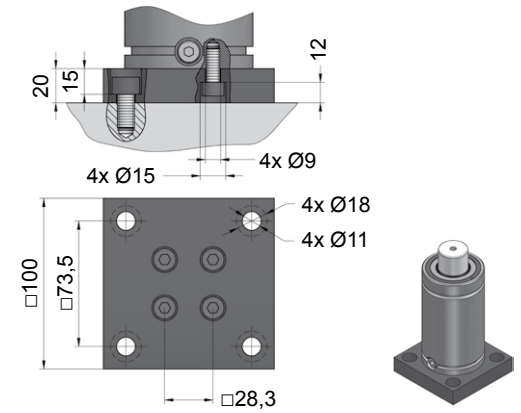
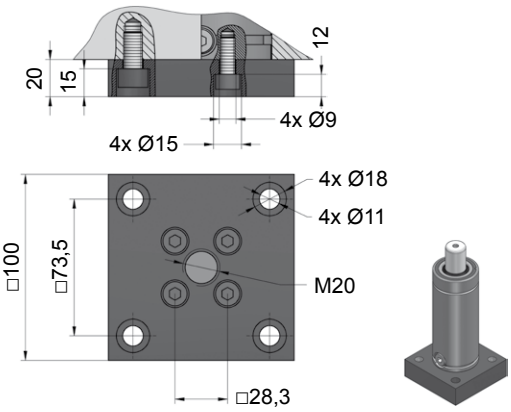


NC.88.00.075.0221



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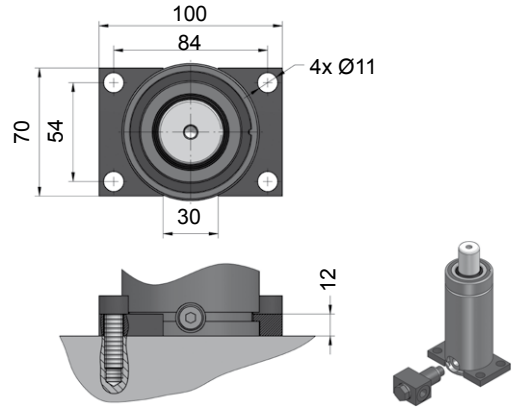

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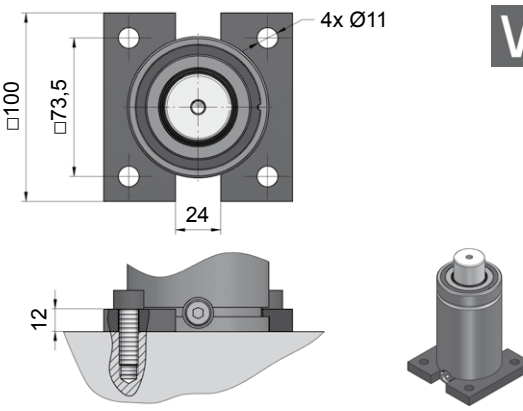
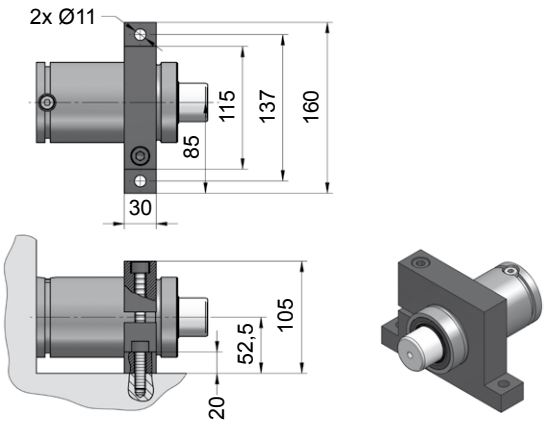
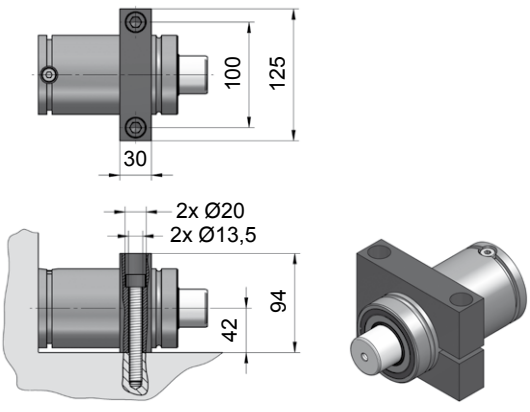


NC.88.00.075.0320



NC.88.00.075.0402



NC.88.00.075.0467

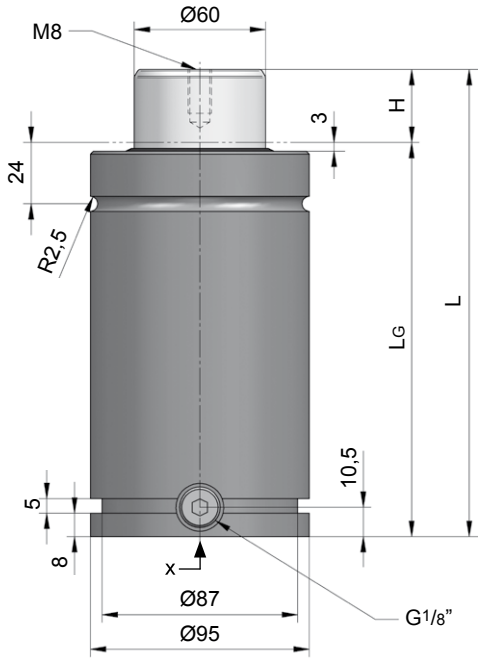
NC.064.10.04200

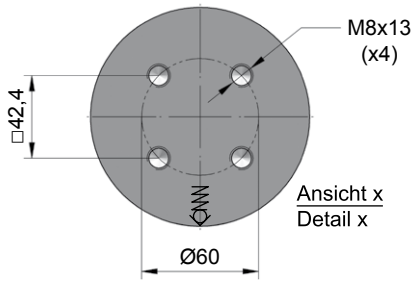
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

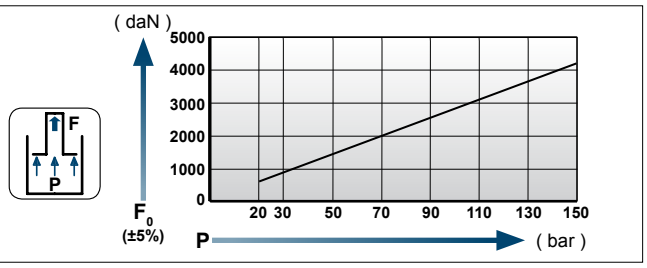
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

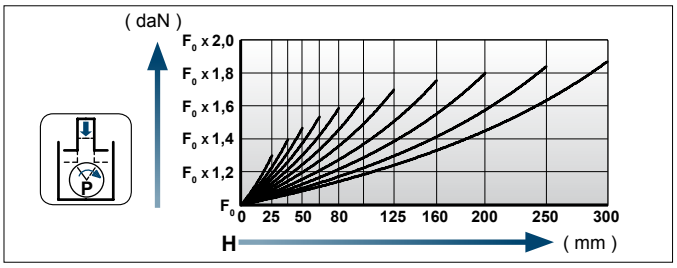


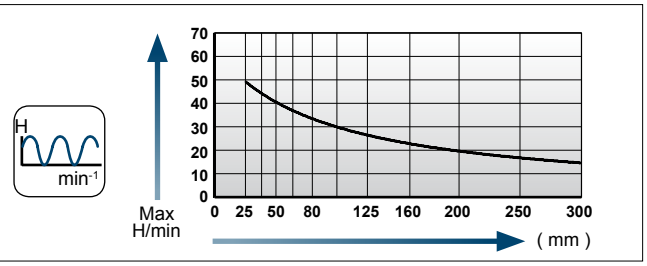


NC.064.10.04200.063,5

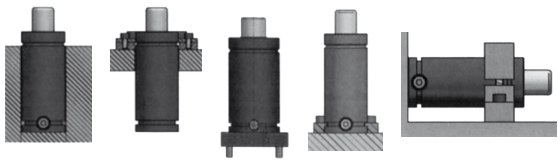
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	170	145	4240	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	196	158	4240	
050	220	170	4240	
063,5	247	183,5	4240	
080	280	200	4240	
100	320	220	4240	
125	370	245	4240	
160	440	280	4240	
200	520	320	4240	
250	620	370	4240	
300	720	420	4240	







Einbaubeispiele / Flange mounting options



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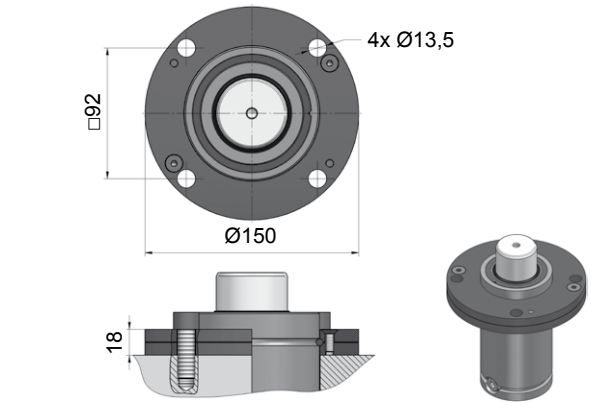
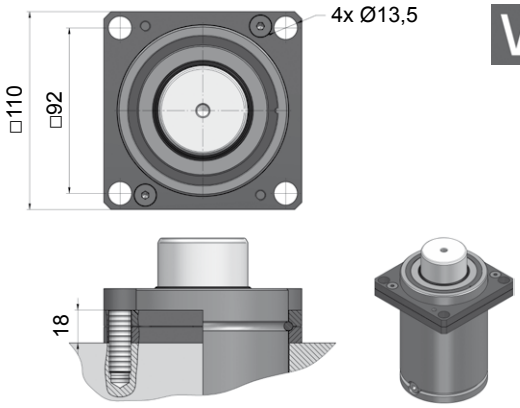
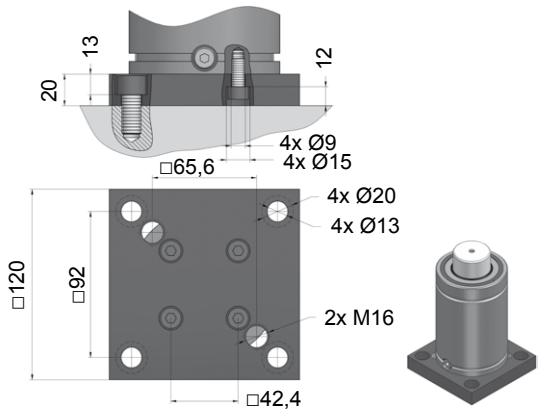
Flansche für / Flanges for **NC.064.10.04200**



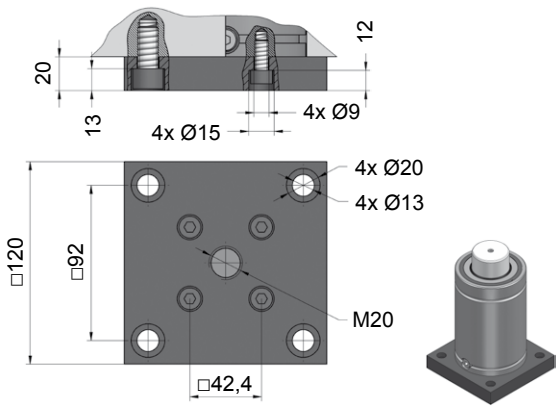
NC.88.00.095.0114



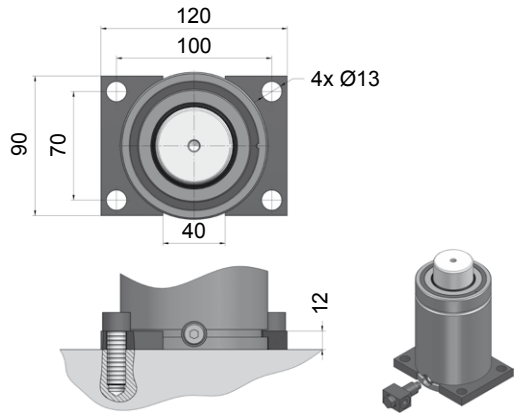
NC.88.00.095.0134



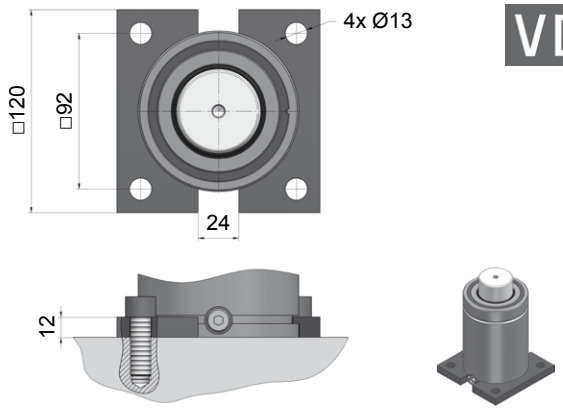
NC.88.00.095.0221



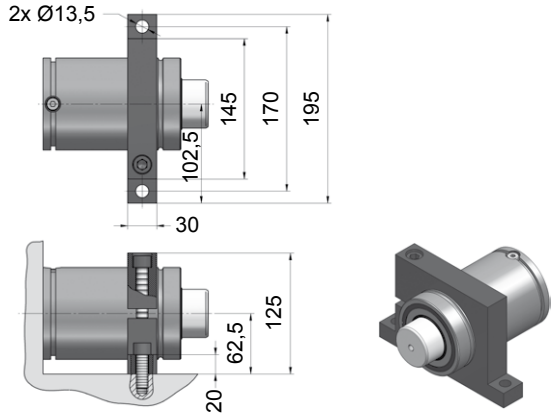
NC.88.00.095.0276



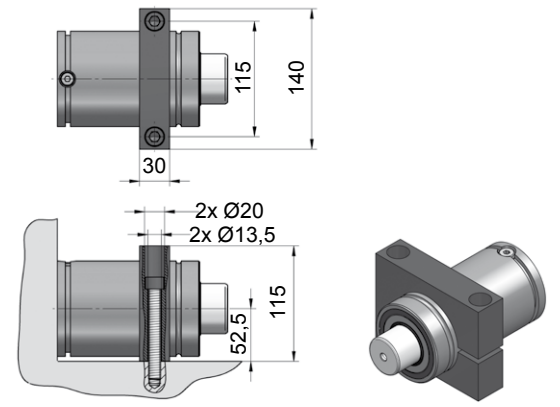
NC.88.00.095.0305



NC.88.00.095.0320



NC.88.00.095.0402



NC.88.00.095.0467

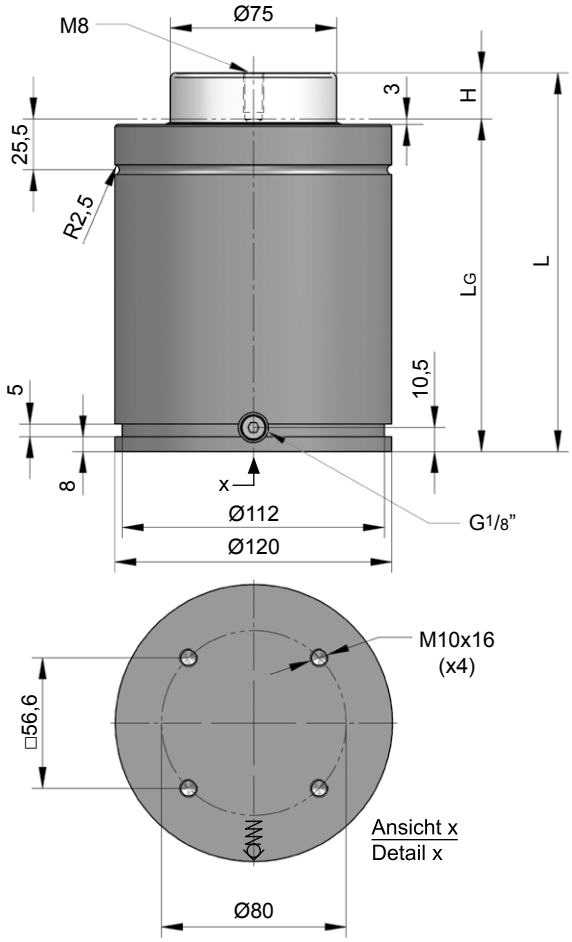
NC.064.10.06600

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

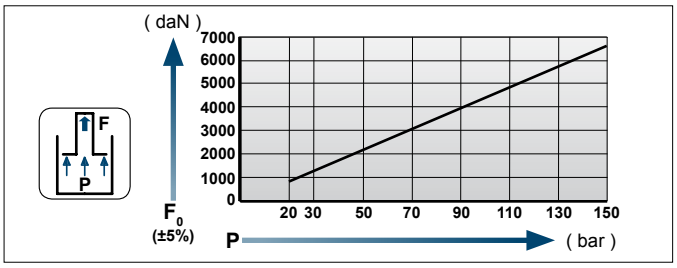
Specifications:

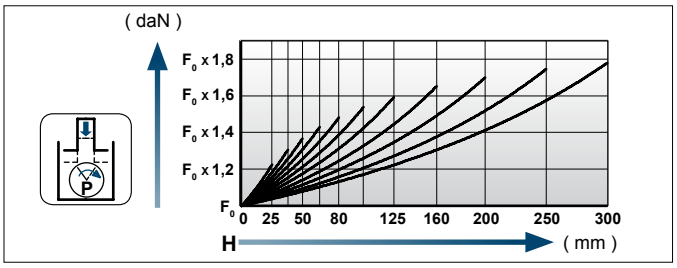
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

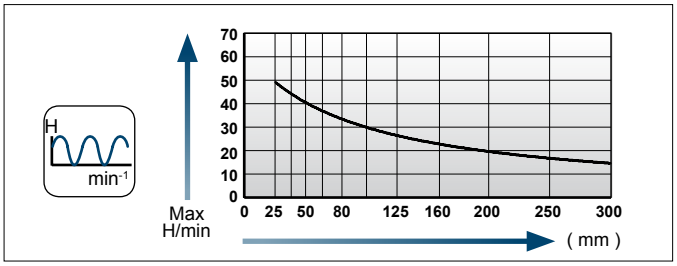


NC.064.10.06600.200

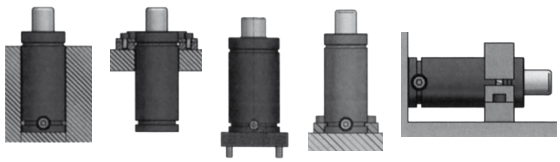
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	190	165	6630	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	216	178	6630	
050	240	190	6630	
063,5	267	203,5	6630	
080	300	220	6630	
100	340	240	6630	
125	390	265	6630	
160	460	300	6630	
200	540	340	6630	
250	640	390	6630	
300	740	440	6630	







Einbaubeispiele / Flange mounting options



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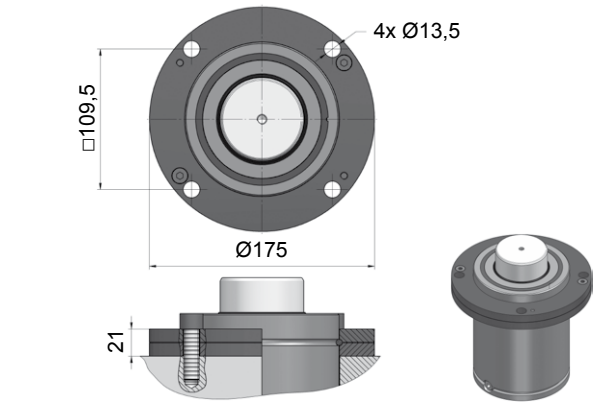
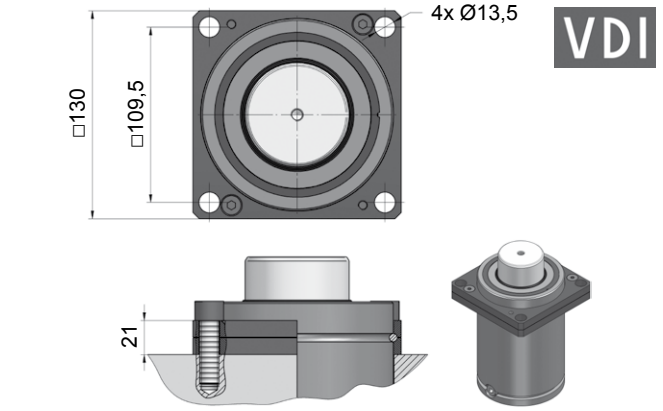
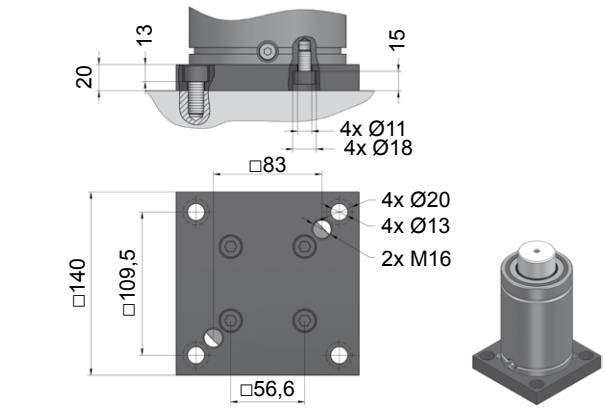
Flansche für / Flanges for **NC.064.10.06600**



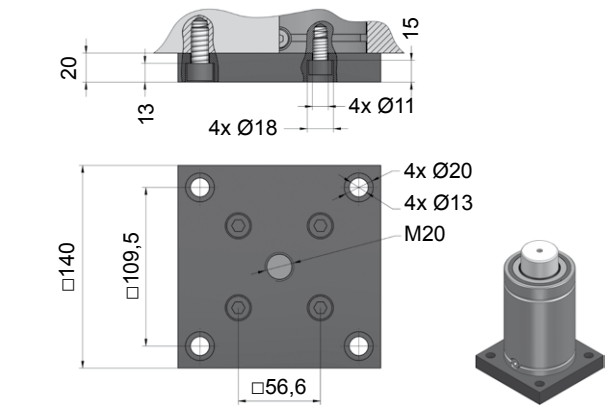
NC.88.00.120.0114



NC.88.00.120.0134



NC.88.00.120.0221



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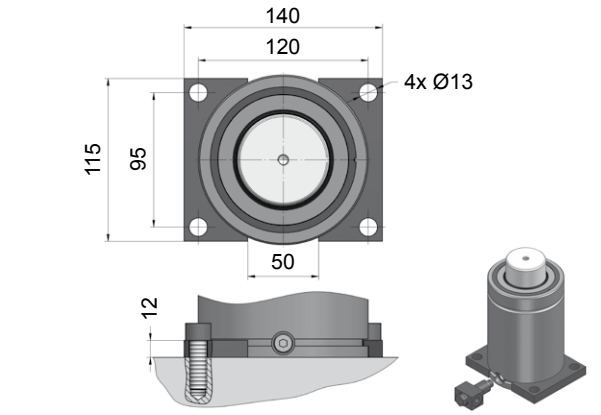
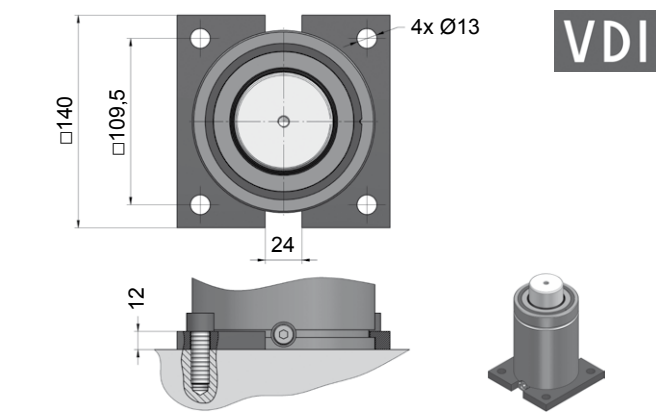
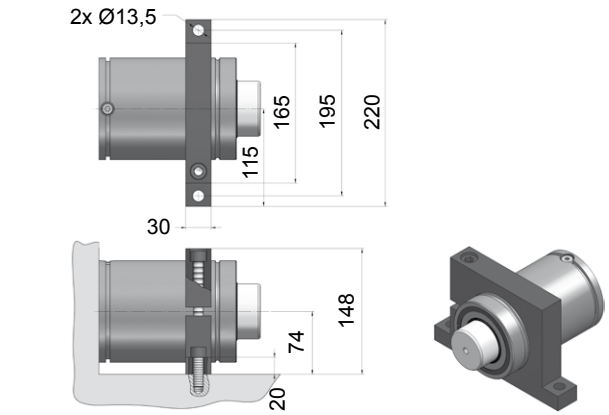


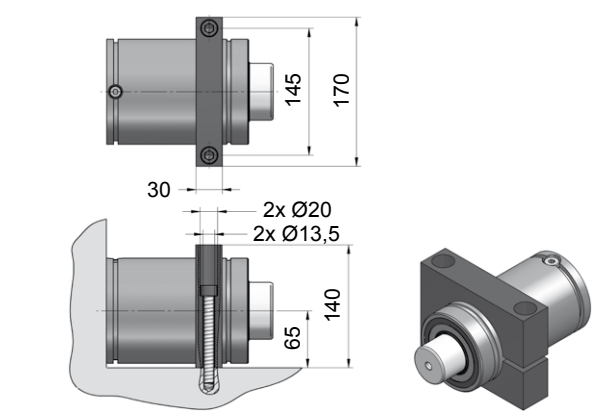
NC.88.00.120.0305



NC.88.00.120.0320



NC.88.00.120.0402



NC.88.00.120.0467

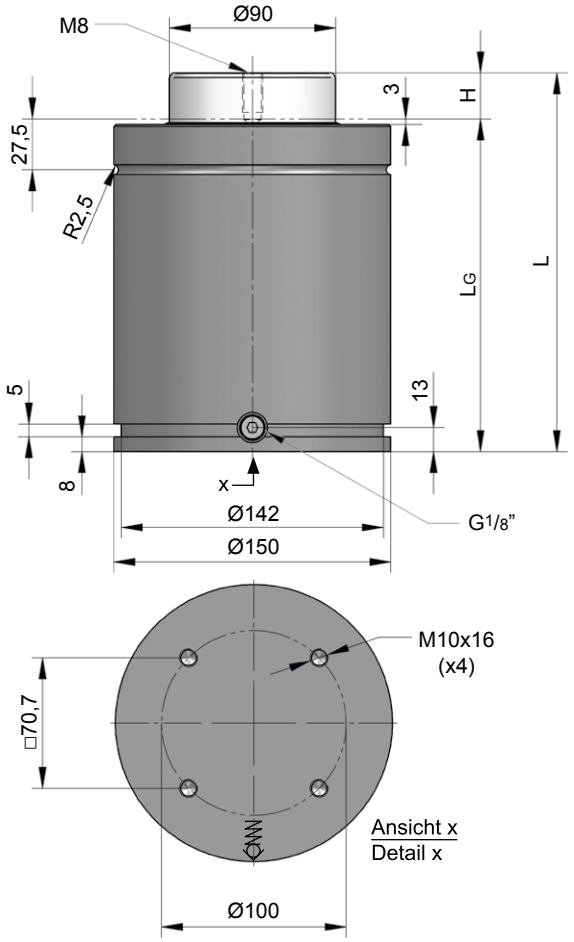
NC.064.10.09600

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

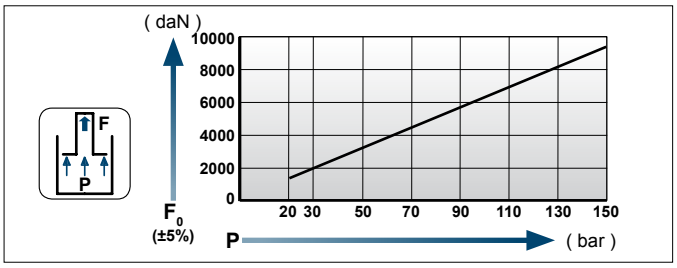
Specifications:

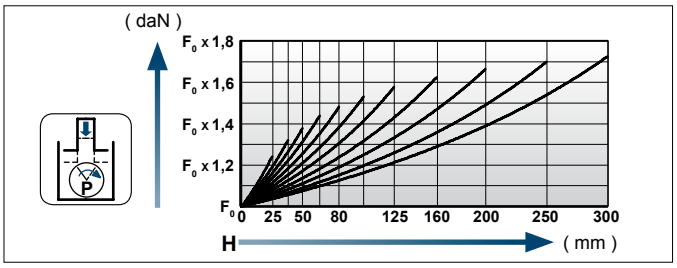
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

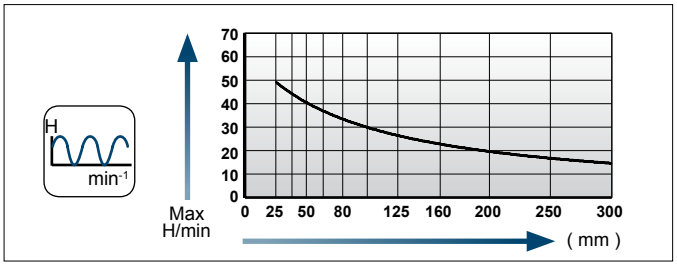


NC.064.10.09600.125

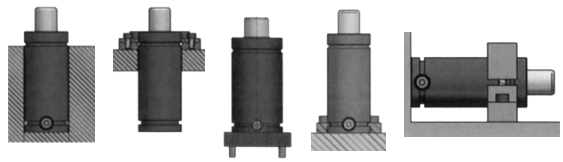
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
025	205	180	9540	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	231	193	9540	
050	255	205	9540	
063,5	282	218,5	9540	
080	315	235	9540	
100	355	255	9540	
125	405	280	9540	
160	475	315	9540	
200	555	355	9540	
250	655	405	9540	
300	755	455	9540	







Einbaubeispiele / Flange mounting options



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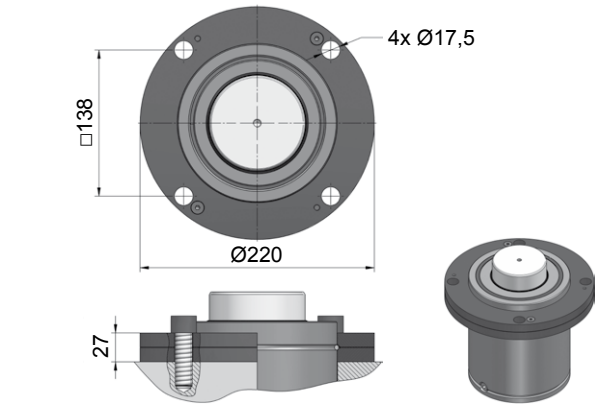
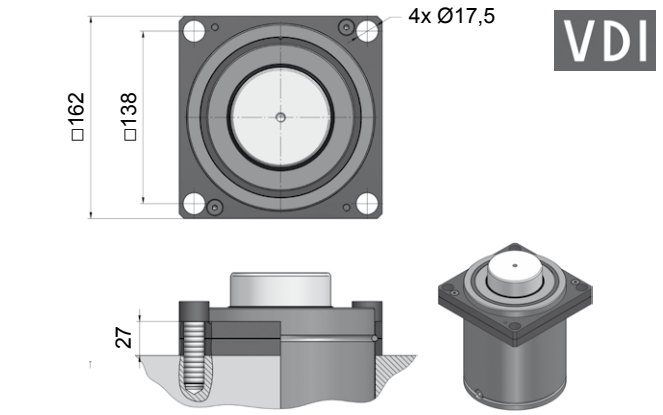
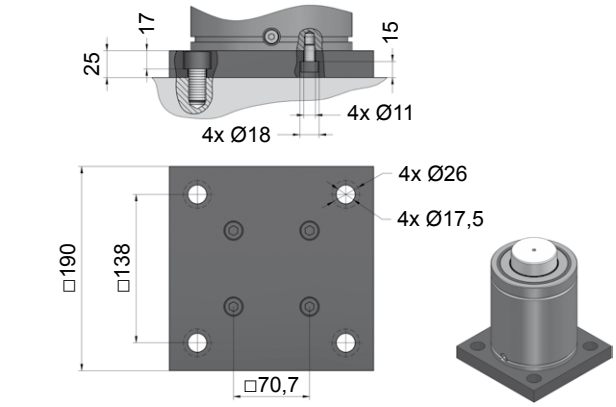
Flansche für / Flanges for **NC.064.10.09600**



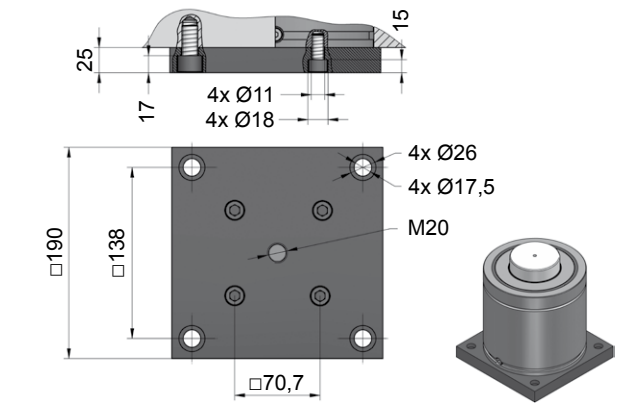
NC.88.00.150.0114



NC.88.00.150.0134



NC.88.00.150.0221



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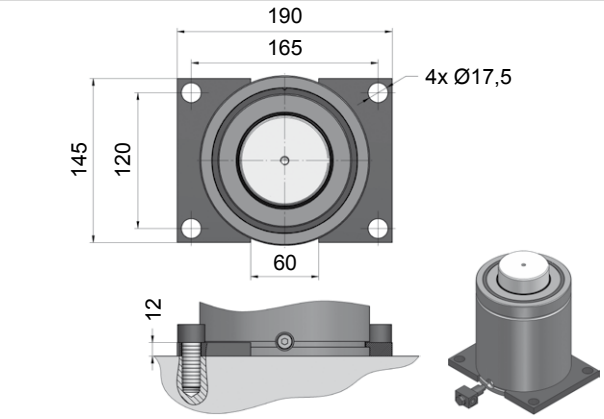

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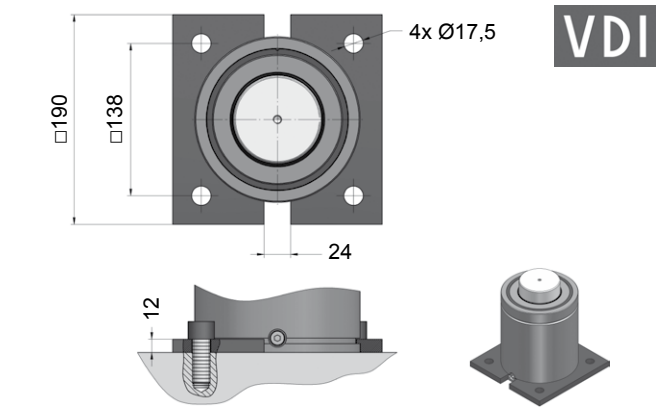
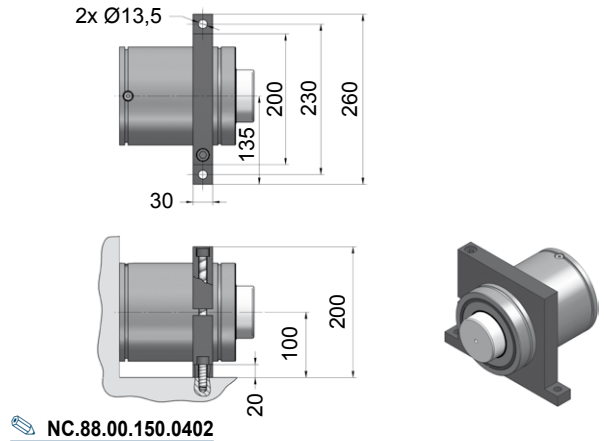
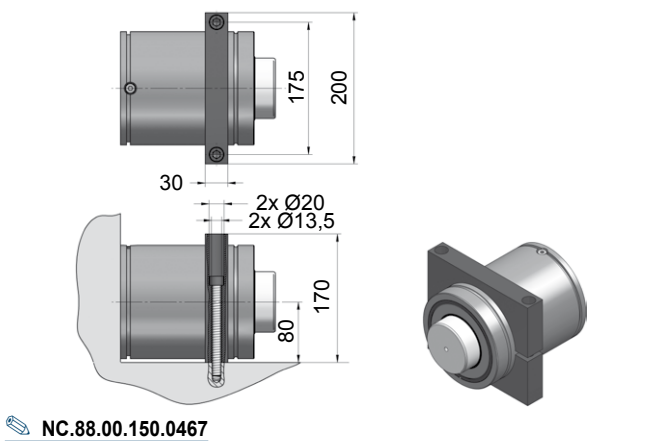


NC.88.00.150.0320

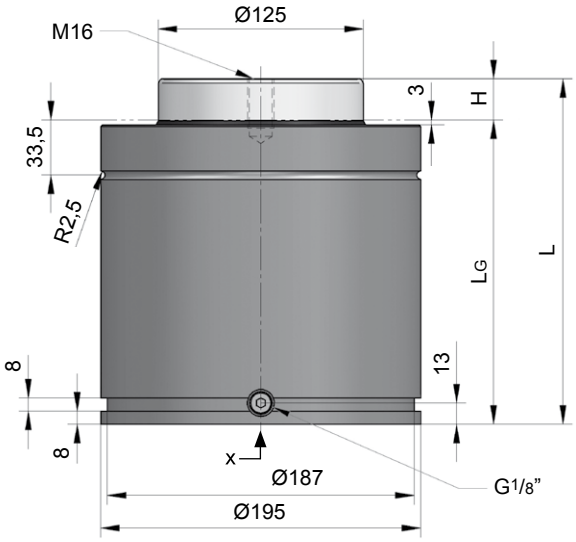


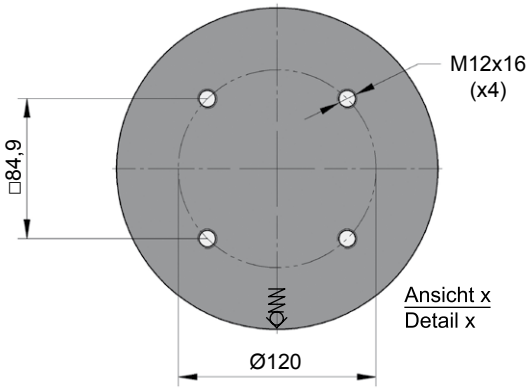
NC.88.00.150.0402



NC.88.00.150.0467

NC.064.10.18500





Technische Daten:

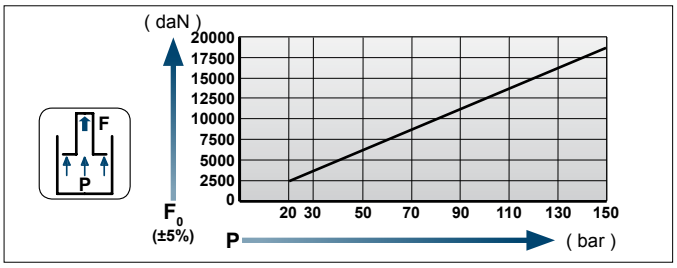
Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

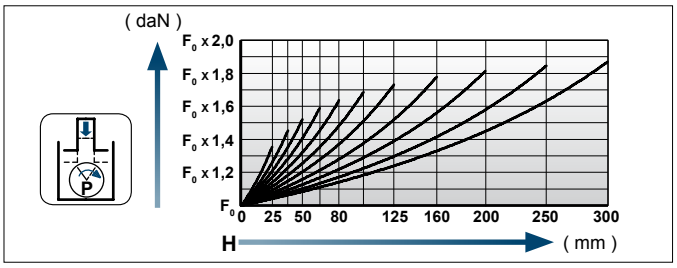
Specifications:

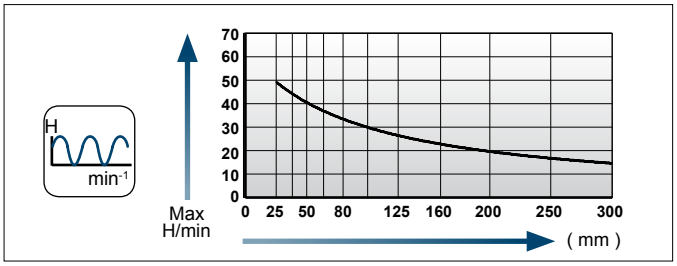
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NC.064.10.18500.160

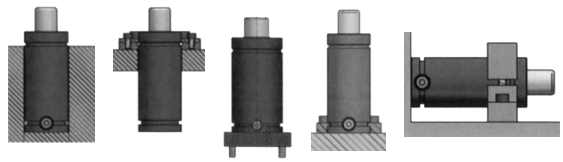
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	 Ende / Final [daN]
025	210	185	18410	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
038	236	198	18410	
050	260	210	18410	
063,5	287	223,5	18410	
080	320	240	18410	
100	360	260	18410	
125	410	285	18410	
160	480	320	18410	
200	560	360	18410	
250	660	410	18410	
300	760	460	18410	





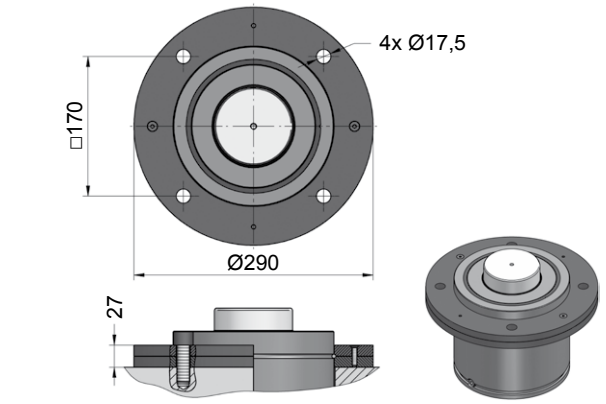


Einbaubeispiele / Flange mounting options

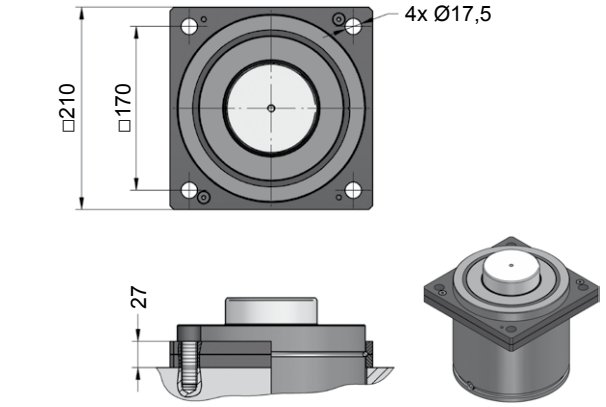


[NC]

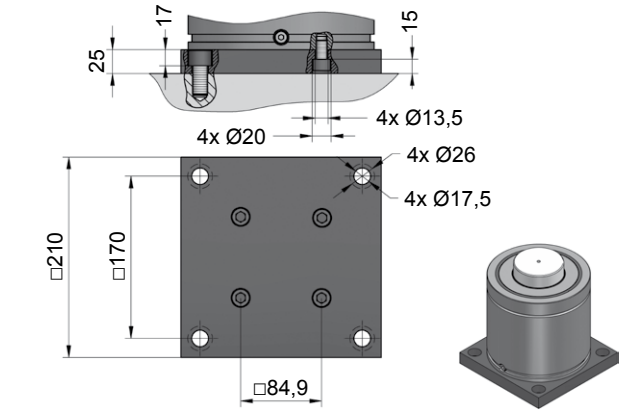
Flansche für / Flanges for **NC.064.10.18500**



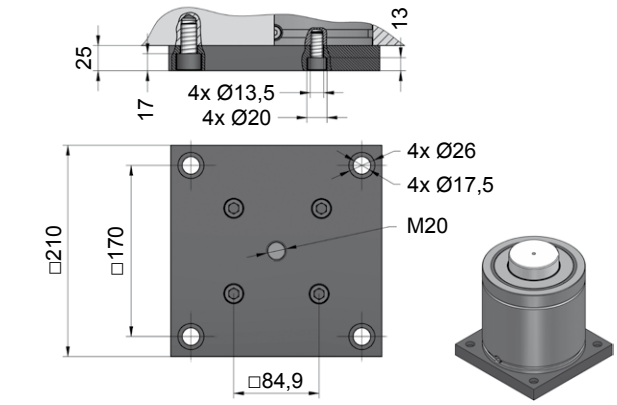
NC.88.00.195.0114



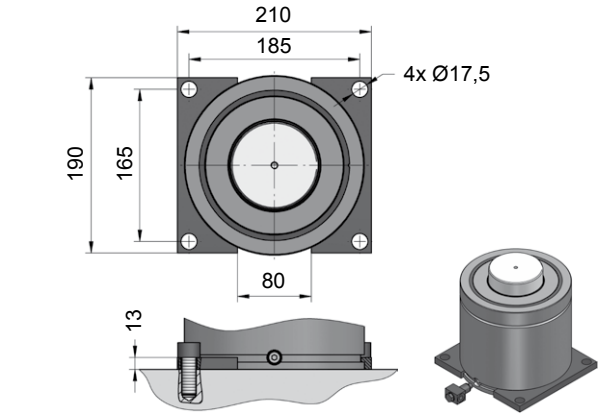
NC.88.00.195.0134



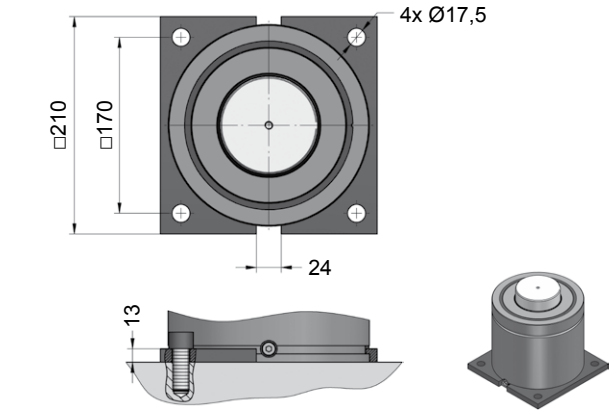
NC.88.00.195.0221



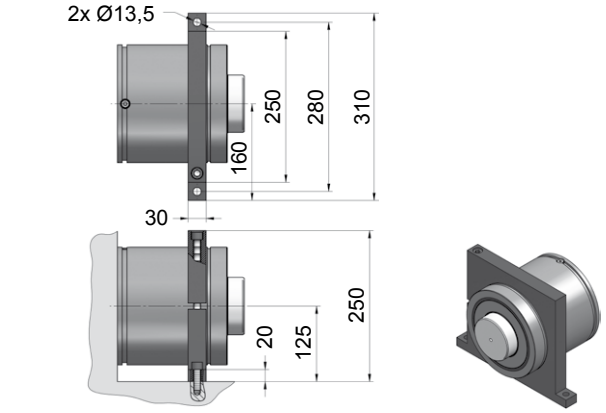
NC.88.00.195.0276



NC.88.00.195.0305



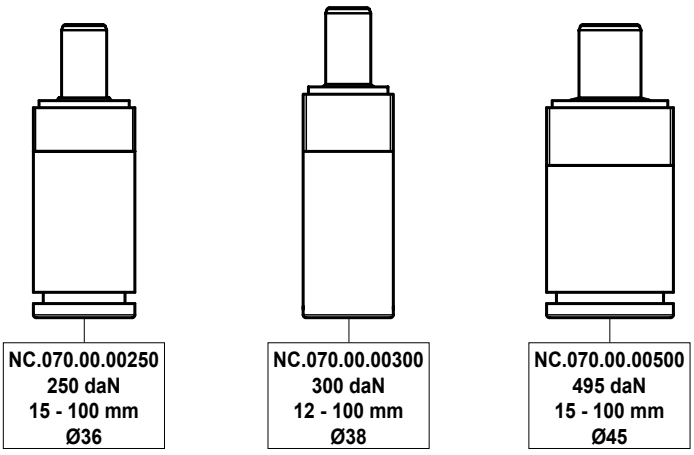
NC.88.00.195.0320



NC.88.00.195.0402

Größenübersicht Serie NC.070.00

Gas spring index 070.00 series



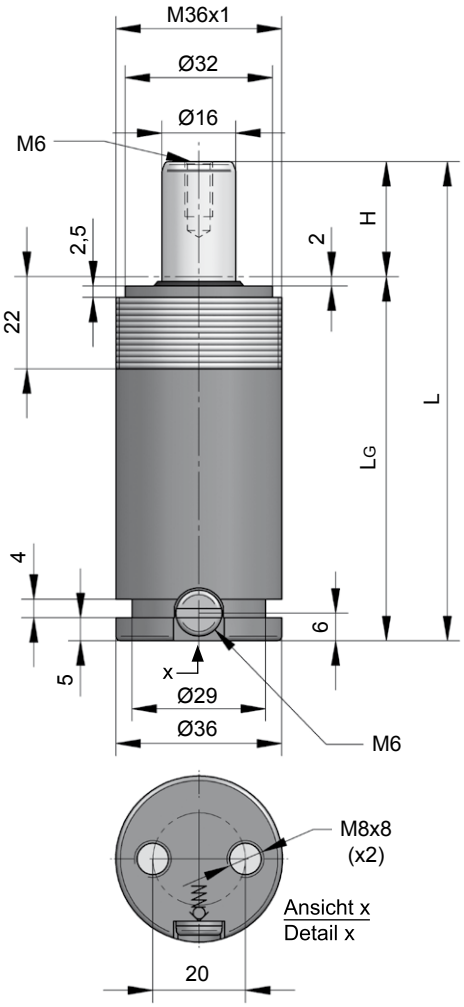
NC.070.00.00250

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

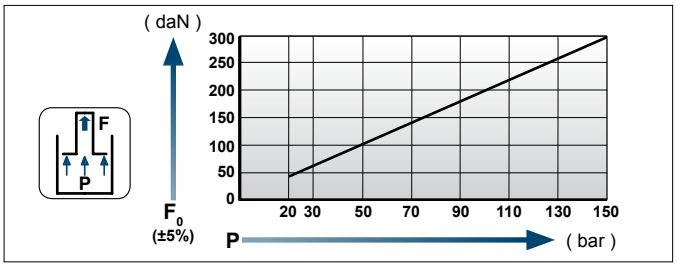
Specifications:

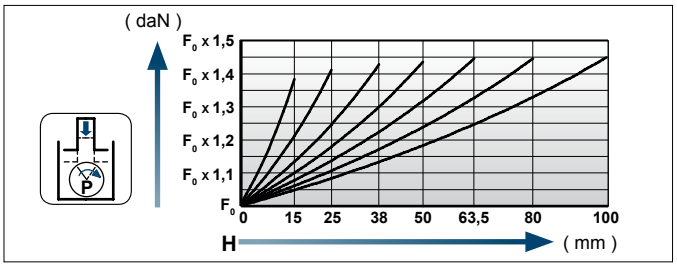
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

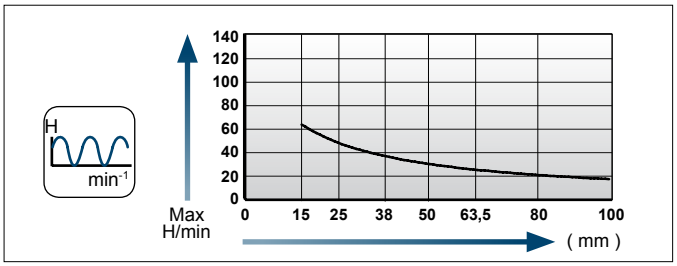


NC.070.00.00250.015

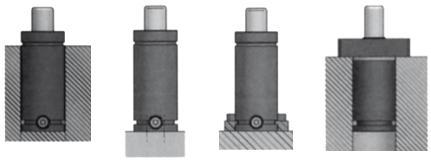
H Hub / Stroke	L ±0,25	LG	Kraft / Force (125 bar) Anfang / Initial [daN]	Ende / Final [daN]
015	84	69	250	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	104	79	250	
038	130	92	250	
050	154	104	250	
063,5	181	117,5	250	
080	214	134	250	
100	254	154	250	





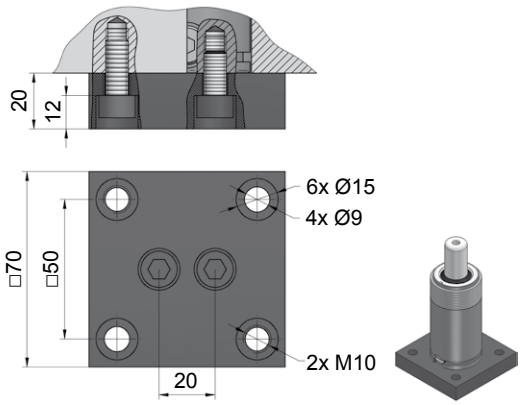


Einbaubeispiele / Flange mounting options

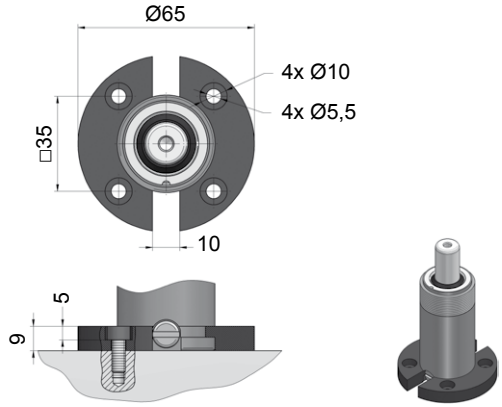


[NC]

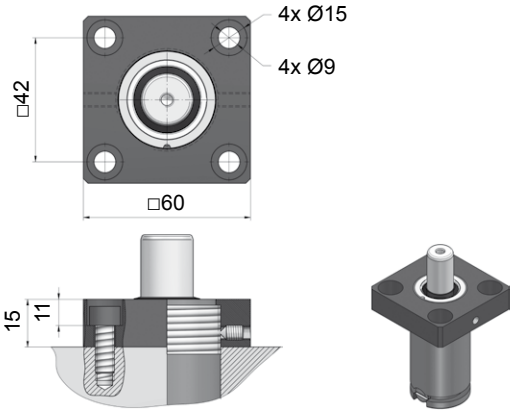
Flansche für / Flanges for **NC.070.00.00250**



NC.88.00.036.0276



NC.88.00.036.0380



NC.88.00.036.0503

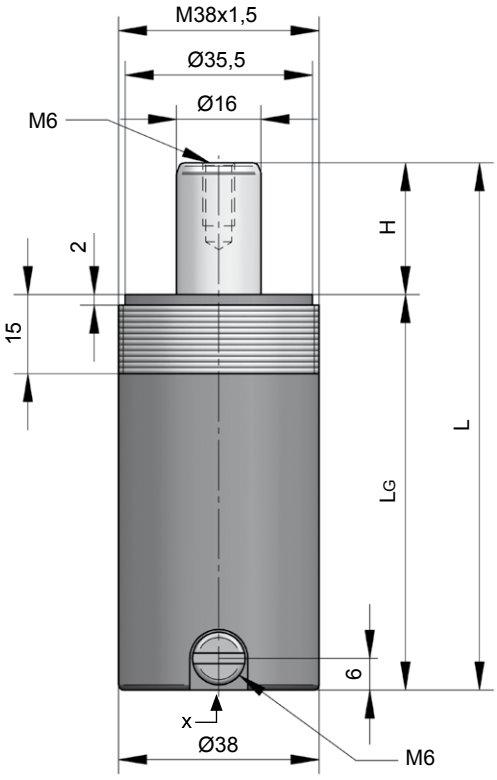
NC.070.00.00300

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

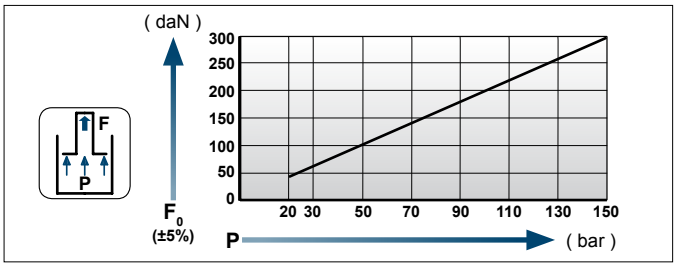
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

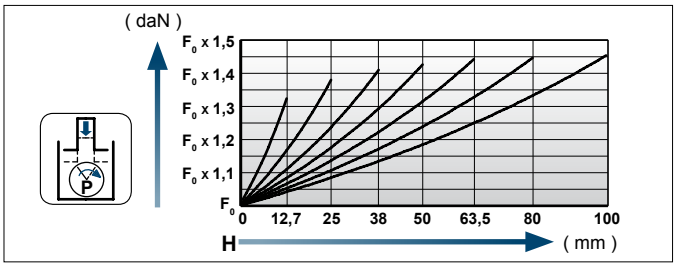


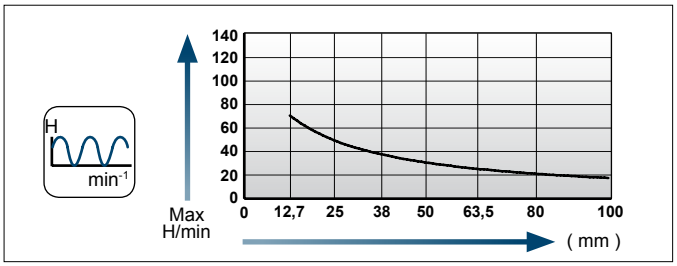
Ansicht x
Detail x

NC.070.00.00300.038

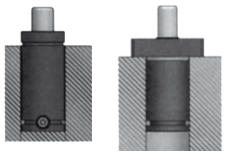
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
012,7	75,4	62,7	300	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	100	75	300	
038	126	88	300	
050	150	100	300	
063,5	177	113,5	300	
080	210	130	300	
100	250	150	300	



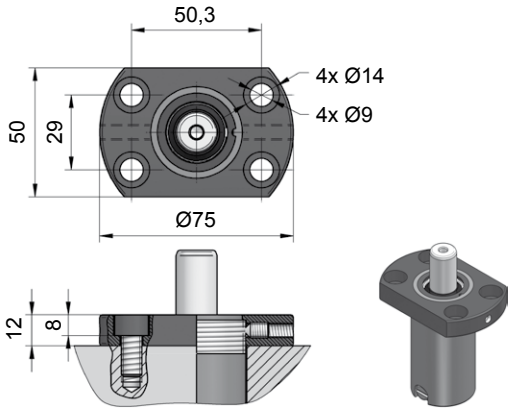




Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.070.00.00300**



NC.88.00.038.0508

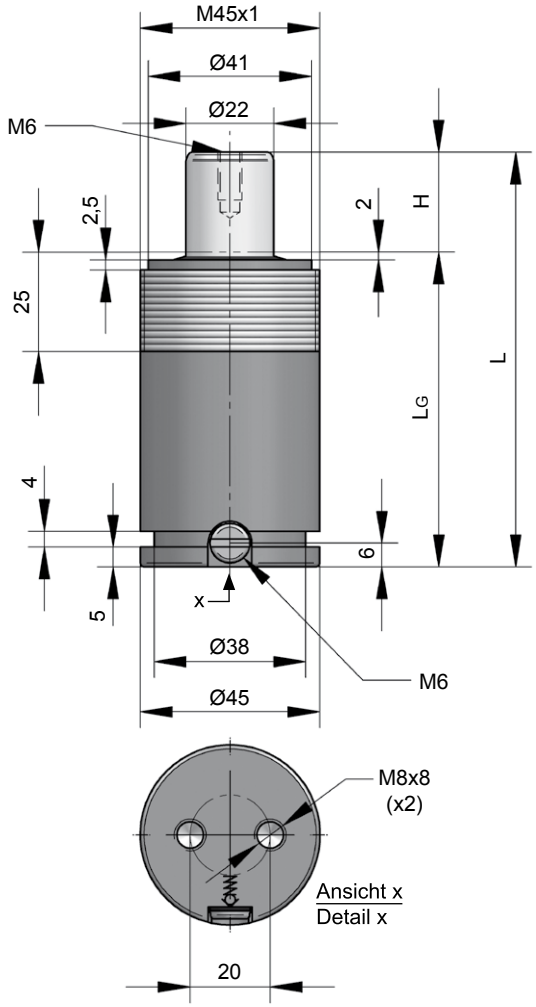
NC.070.00.00500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

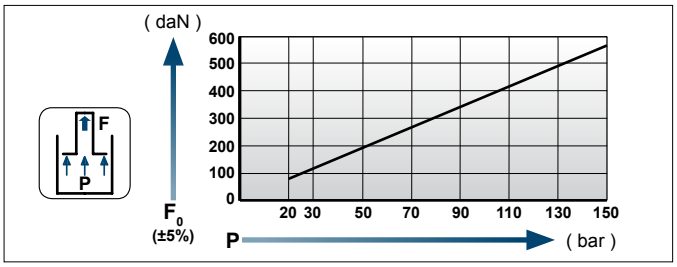
Specifications:

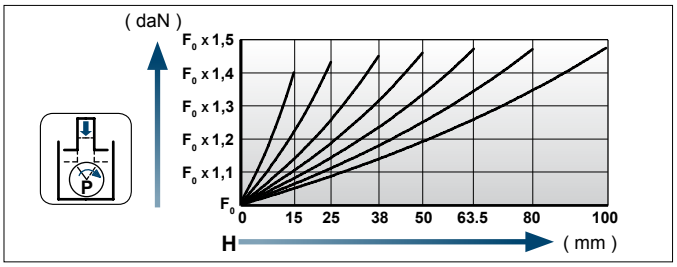
Pressure medium:	N2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

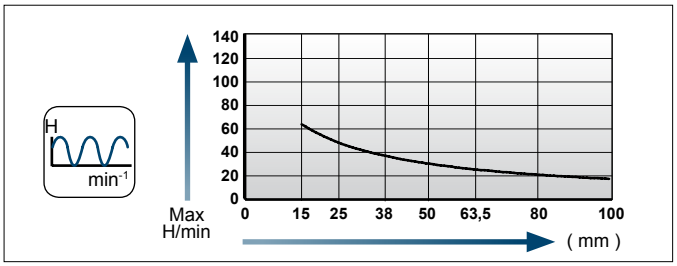


NC.070.00.00500.050

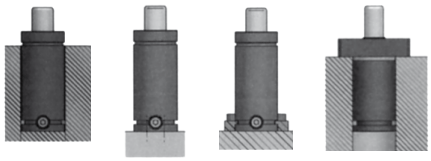
H Hub / Stroke	L ±0,25	LG	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
015	84	69	495	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
025	104	79	495	
038	130	92	495	
050	154	104	495	
063,5	181	117,5	495	
080	214	134	495	
100	254	154	495	





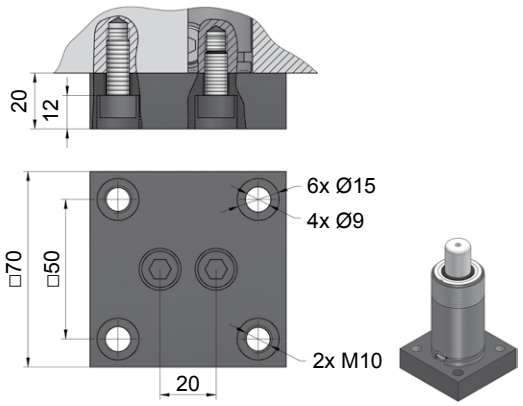


Einbaubeispiele / Flange mounting options

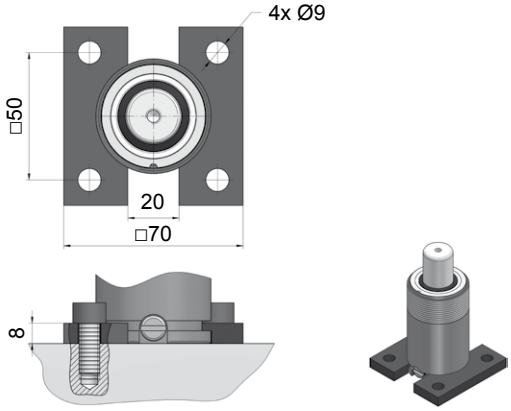


[NC]

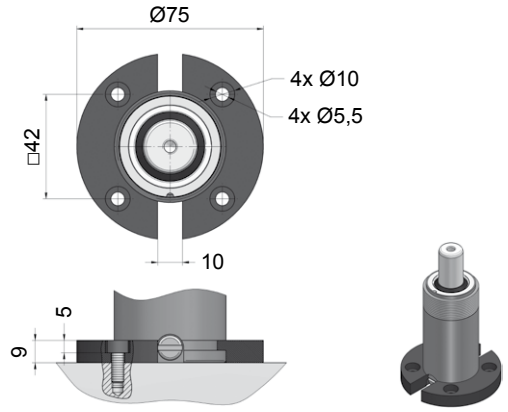
Flansche für / Flanges for **NC.070.00.00500**



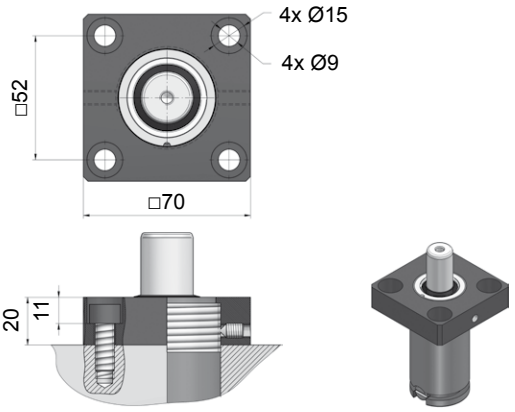
NC.88.00.045.0276



NC.88.00.045.0330



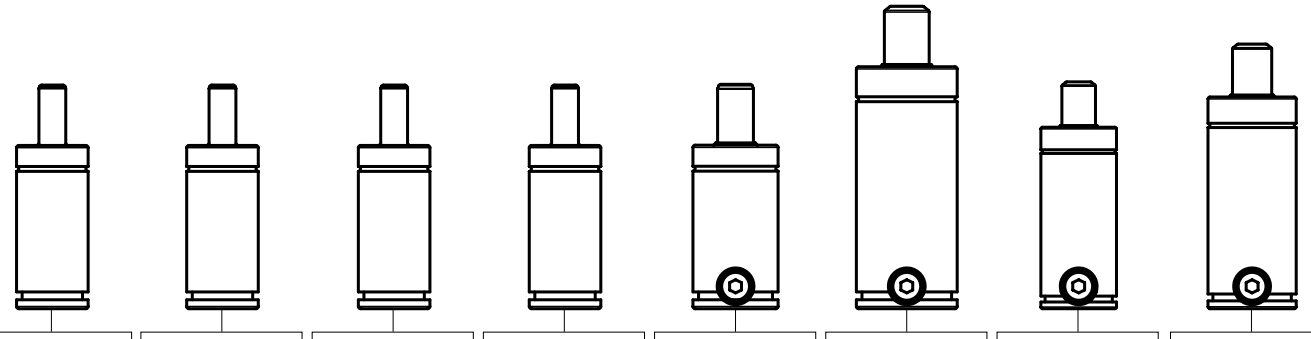
NC.88.00.045.0380



NC.88.00.045.0503

Größenübersicht Serie NC.071.XX

Gas spring index 071.XX series



NC.071.00.00050	NC.071.00.00100	NC.071.00.00150	NC.071.00.00200	NC.071.00.00250	NC.071.00.00500	NC.071.18.00150	NC.071.18.00250
50 daN	100 daN	150 daN	200 daN	250 daN	470 daN	150 daN	250 daN
10 - 125 mm	10 - 125 mm	10 - 125 mm	10 - 125 mm	10 - 125 mm	10 - 160 mm	10 - 125 mm	10 - 125 mm
Ø32	Ø32	Ø32	Ø32	Ø38	Ø45	Ø32	Ø38

NC.071.00

NEU! NEW!

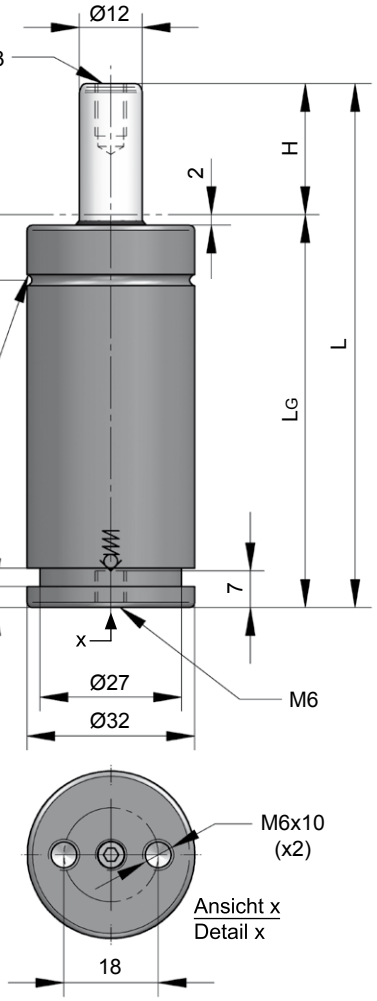
ZUGELASSEN PED 97/23/EG

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Specifications:

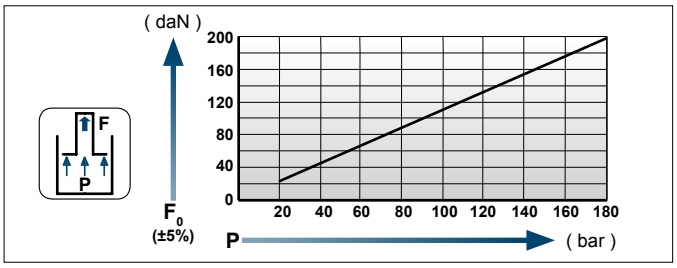
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

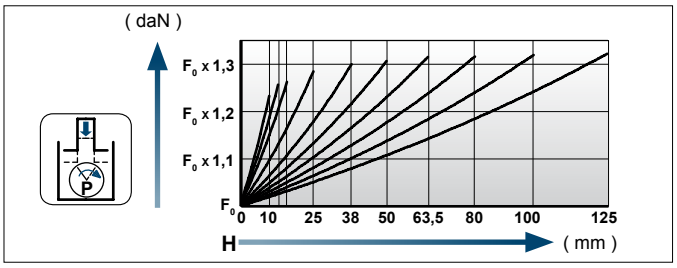


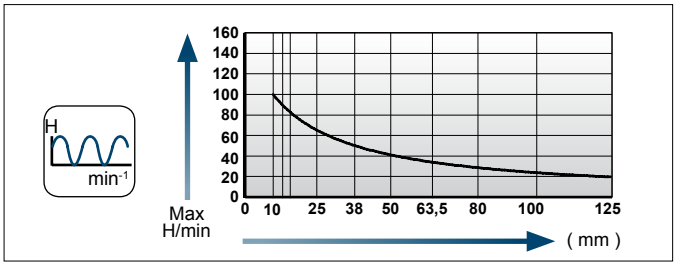
NC.071.00.00150.038

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Ende / Final [daN]
NC.071.00.00050	Grün / Green	45	50	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.071.00.00100	Blau / Blue	90	100	
NC.071.00.00150	Rot / Red	135	150	
NC.071.00.00200	Gelb / Yellow	180	200	

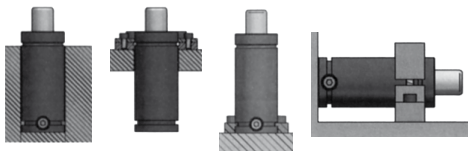
Hub / Stroke	L ±0,25	LG
010	70	60
012,7	75,4	62,7
016	82	66
025	100	75
038	126	88
050	150	100
063,5	177	113,5
080	210	130
100	250	150
125	300	175





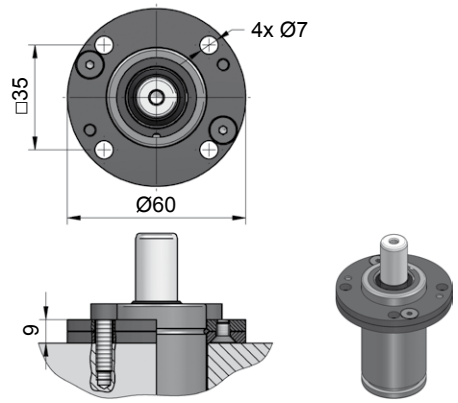


Einbaubeispiele / Flange mounting options

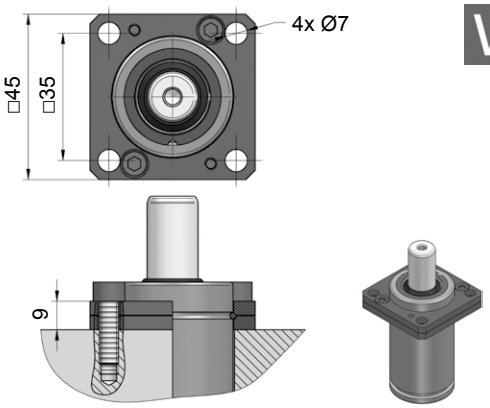


[NC]

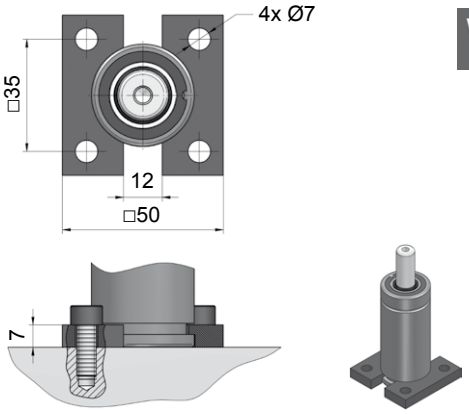
Flansche für / Flanges for **NC.071.00.00050, ...00100, ...00150, ...00200**



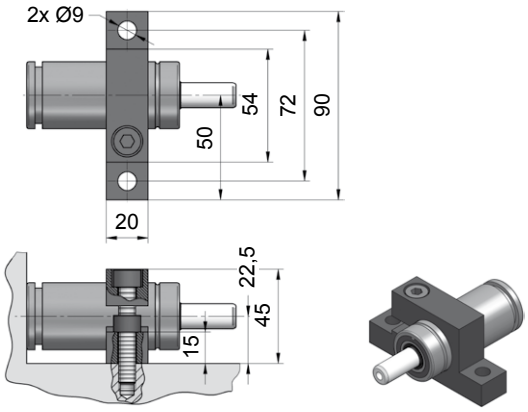
NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0320



NC.88.00.032.0402

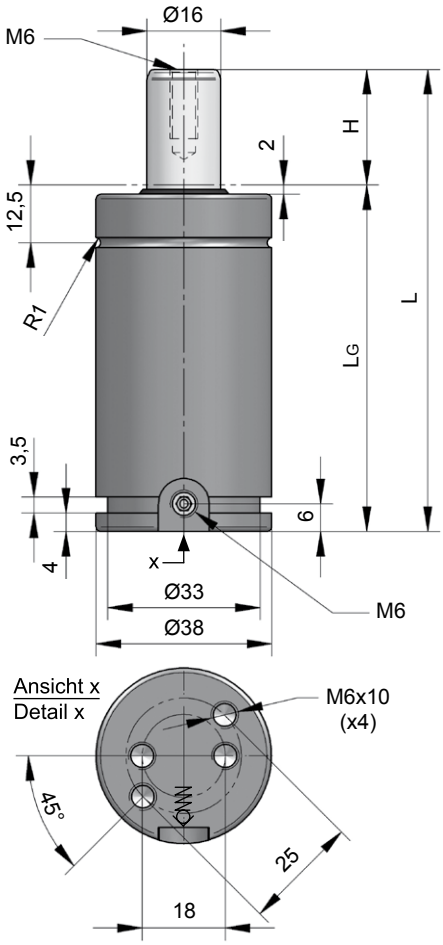
NC.071.00.00250

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

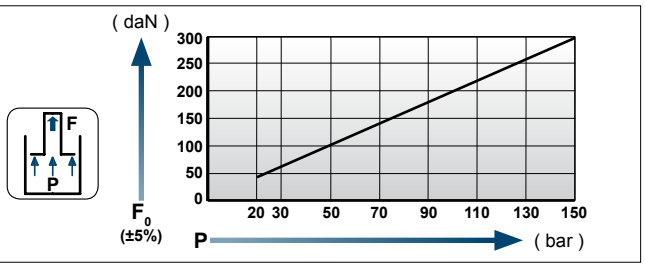
Specifications:

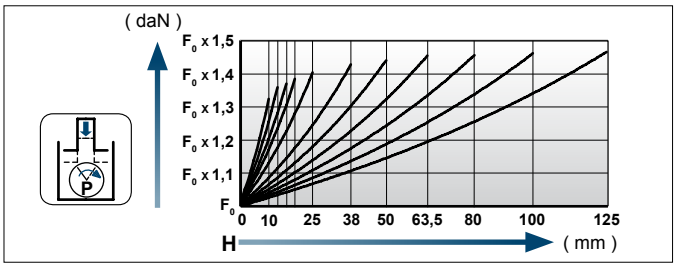
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

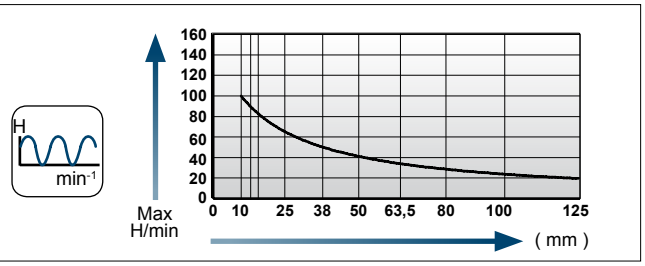


NC.071.00.00250.025

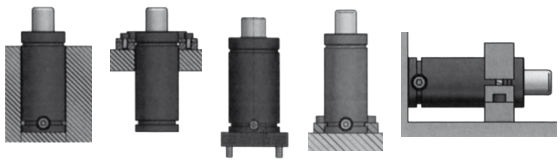
H Hub / Stroke	L ±0,25	LG	Kraft / Force (125 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	250	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	250	
016	82	66	250	
019	88	69	250	
025	100	75	250	
038	126	88	250	
050	150	100	250	
063,5	177	113,5	250	
080	210	130	250	
100	250	150	250	
125	300	175	250	





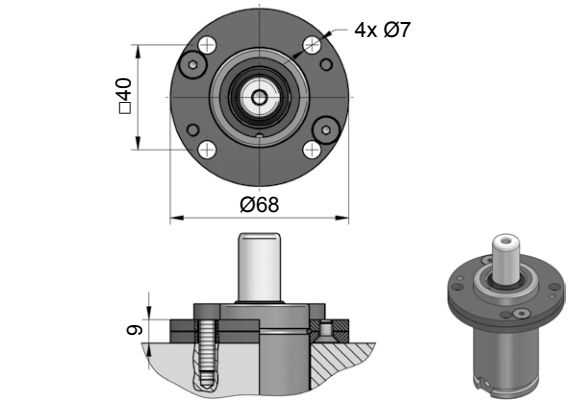


Einbaubeispiele / Flange mounting options

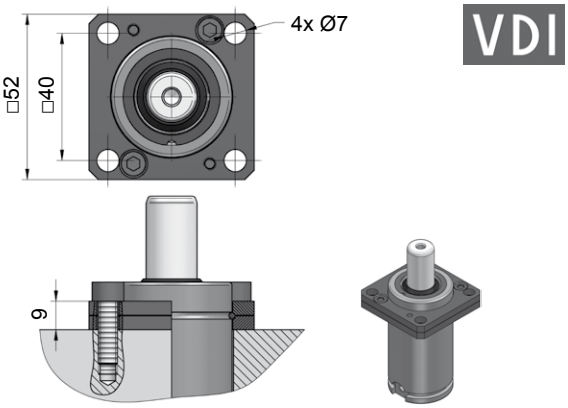


[NC]

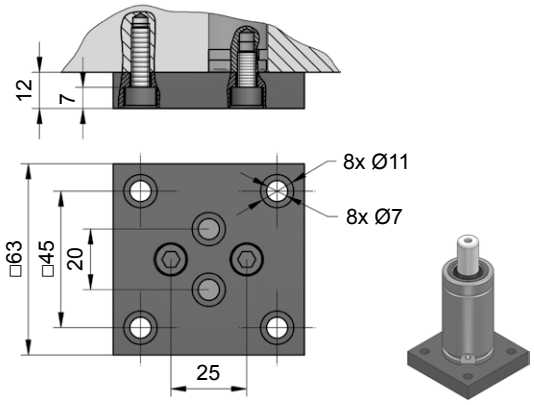
Flansche für / Flanges for **NC.071.00.00250**



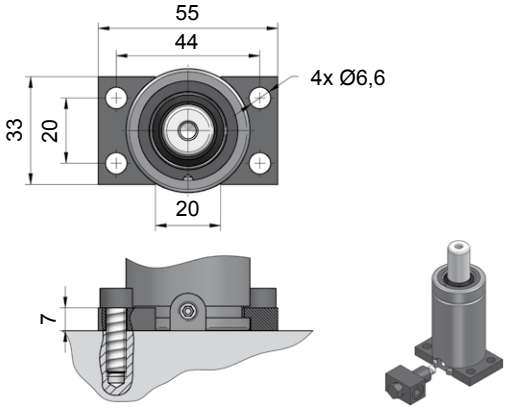
NC.88.00.038.0114



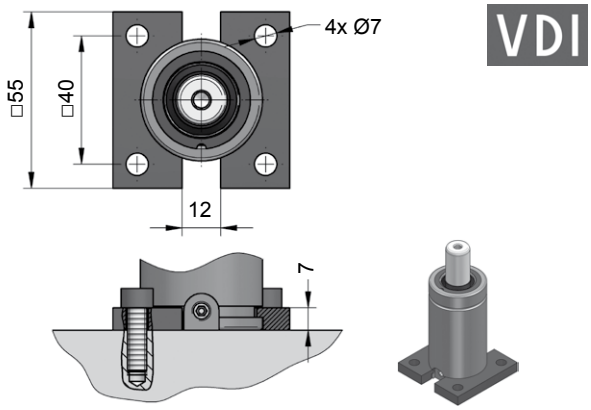
NC.88.00.038.0134



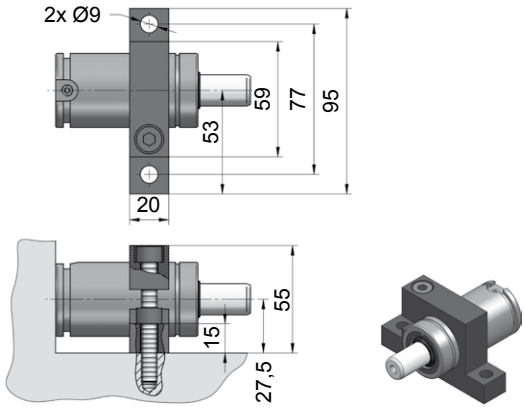
NC.88.00.038.0276



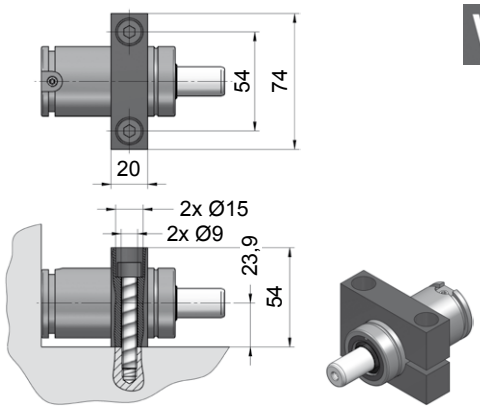
NC.88.00.038.0305



NC.88.00.038.0320



NC.88.00.038.0402



NC.88.00.038.0467

[NC]

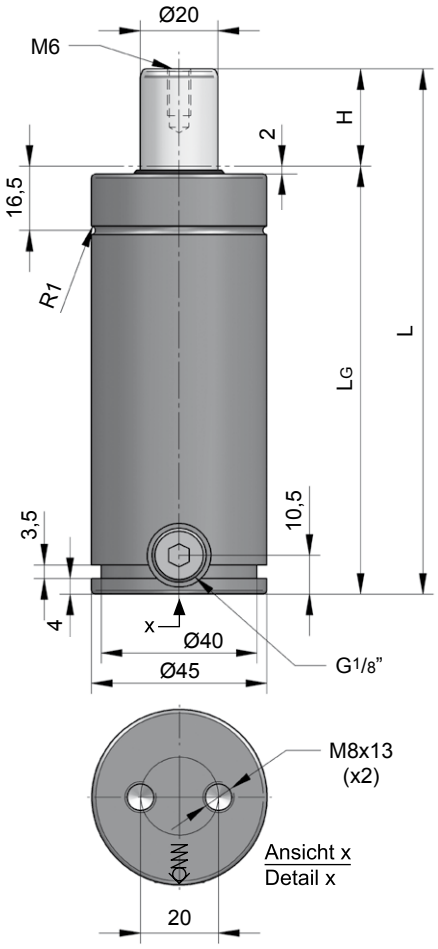
NC.071.00.00500

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

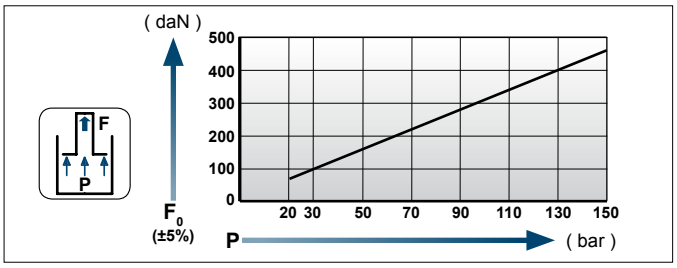
Specifications:

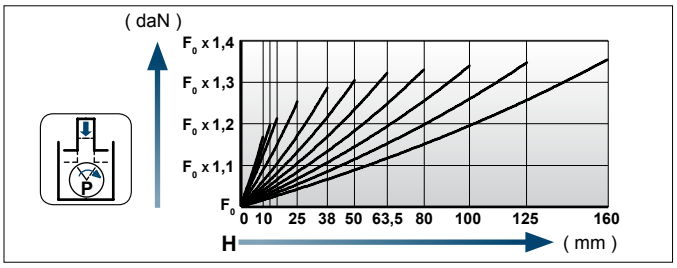
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

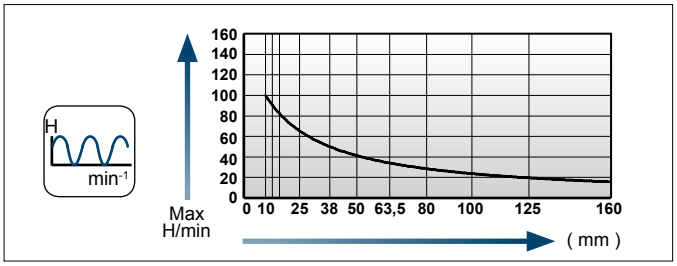


NC.071.00.00500.025

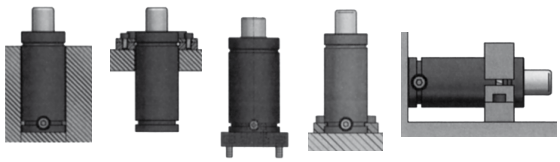
H Hub / Stroke	L ±0,25	LG	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	105	95	470	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	110,4	97,7	470	
016	117	101	470	
025	135	110	470	
038	161	123	470	
050	185	135	470	
063,5	212	148,5	470	
080	245	165	470	
100	285	185	470	
125	335	210	470	
160	405	245	470	



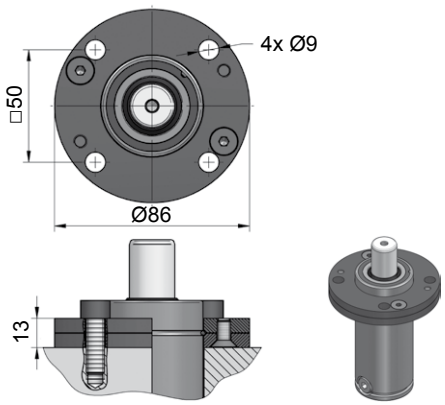




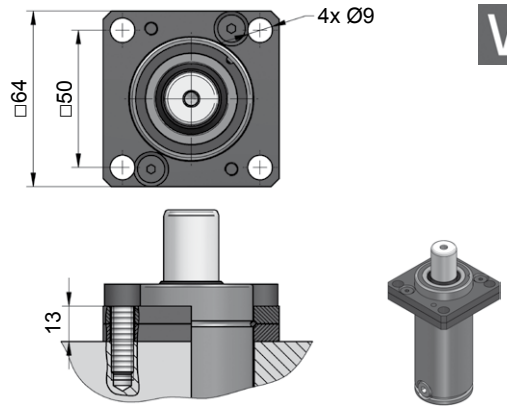
Einbaubeispiele / Flange mounting options



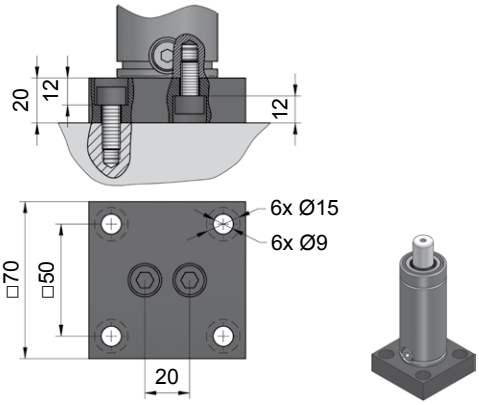
Flansche für / Flanges for **NC.071.00.00500**



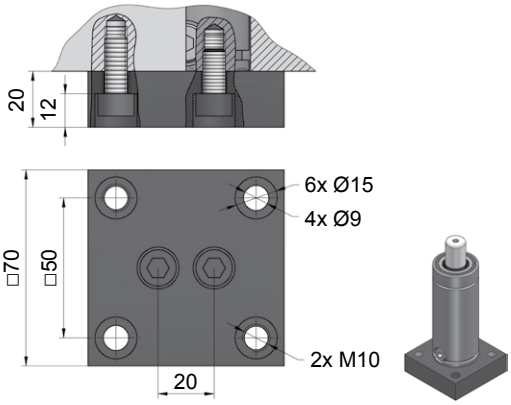
NC.88.00.045.0114



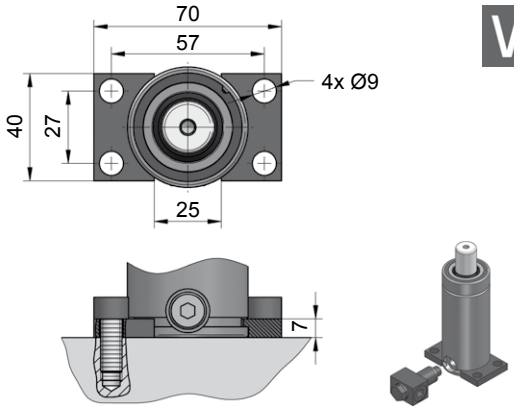
NC.88.00.045.0134



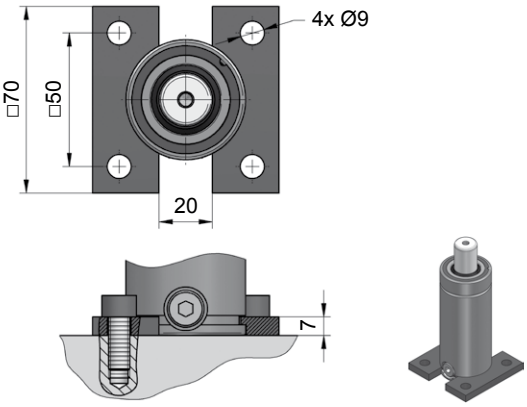
NC.88.00.045.0221



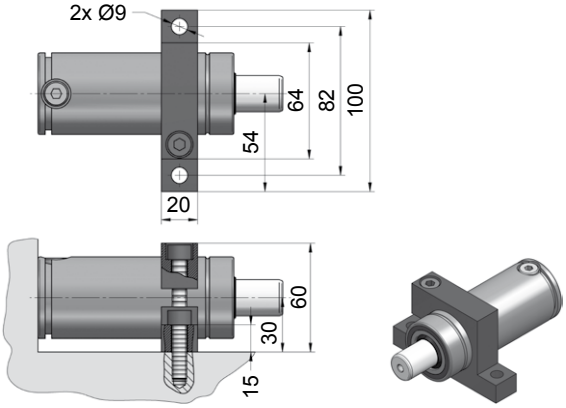
NC.88.00.045.0276



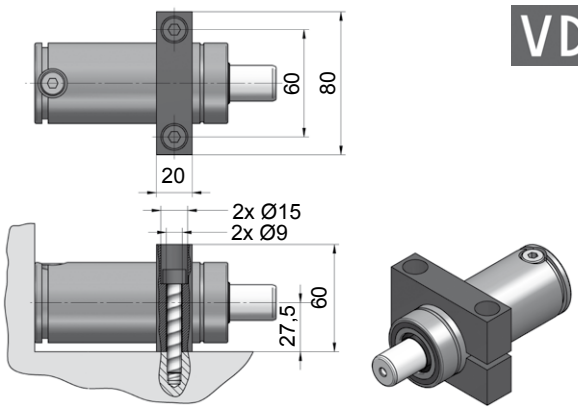
NC.88.00.045.0305



NC.88.00.045.0320



NC.88.00.045.0402



NC.88.00.045.0467

NC.071.18.00150

NEU! NEW!

Technische Daten:

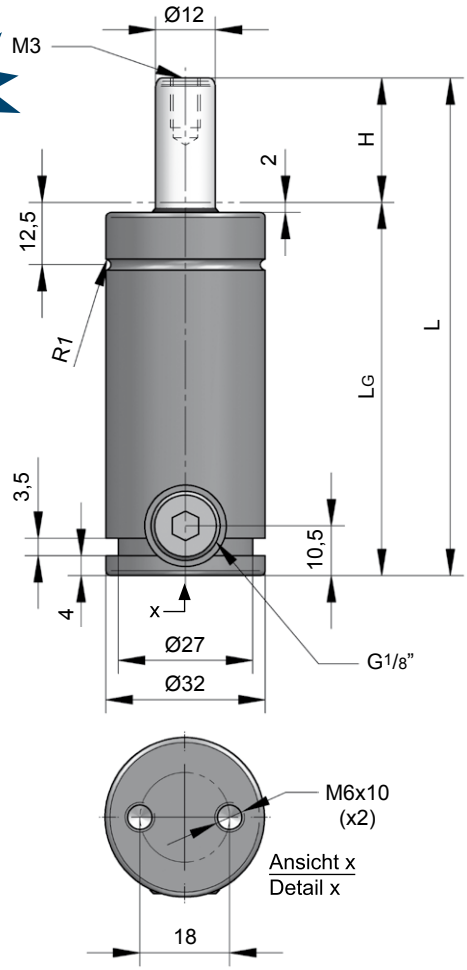
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

GDF ohne Ventil nur im Schlauch-verbund einsetzbar!

Specifications:

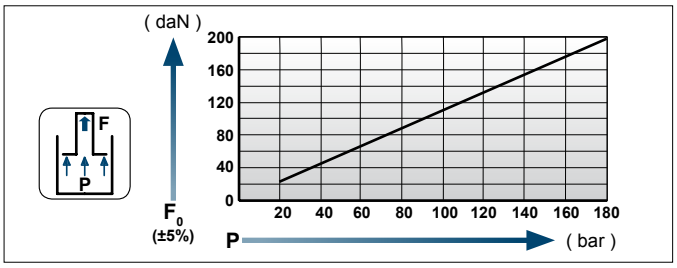
Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

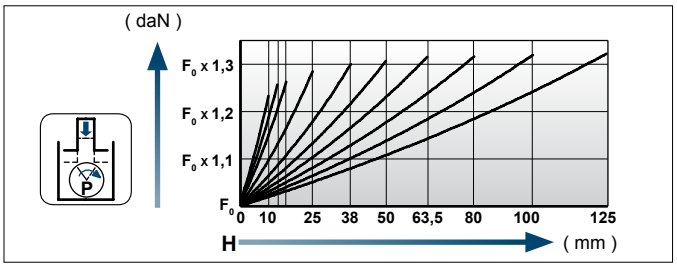
Gas spring without valve only in hose-assemblage applicable.

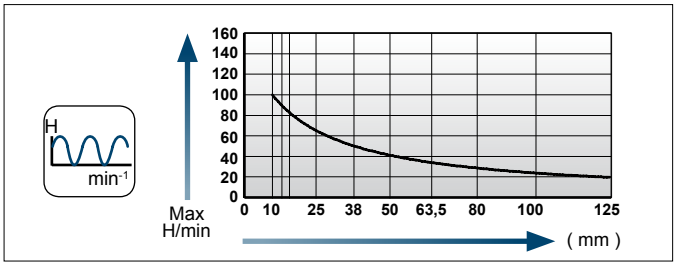


NC.071.18.00150.038

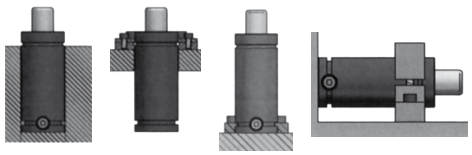
H Hub / Stroke	L ±0,25	LG	Kraft / Force (135 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	150	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	150	
016	82	66	150	
025	100	75	150	
038	126	88	150	
050	150	100	150	
063,5	177	113,5	150	
080	210	130	150	
100	250	150	150	
125	300	175	150	





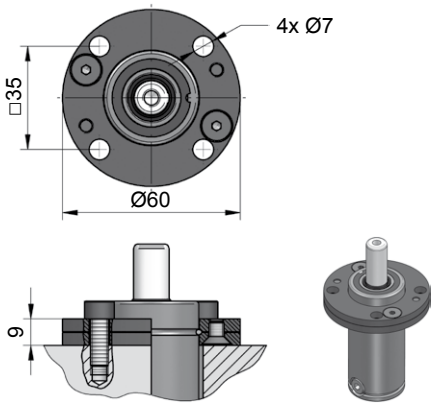


Einbaubeispiele / Flange mounting options

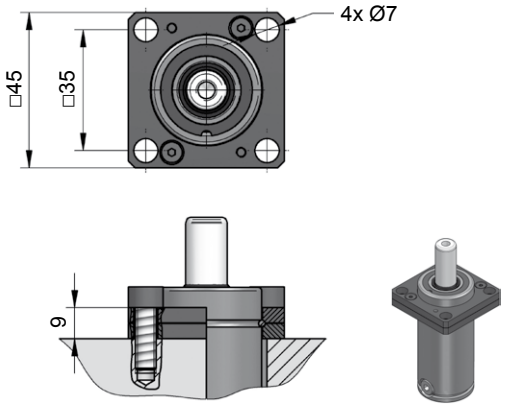


[NC]

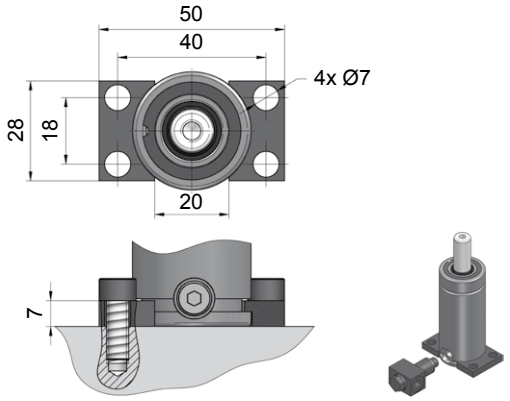
Flansche für / Flanges for **NC.071.18.00150**



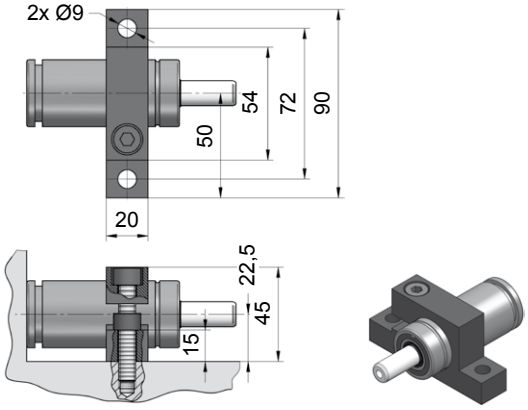
NC.88.00.032.0114



NC.88.00.032.0134



NC.88.00.032.0305



NC.88.00.032.0402

NC.071.18.00250

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

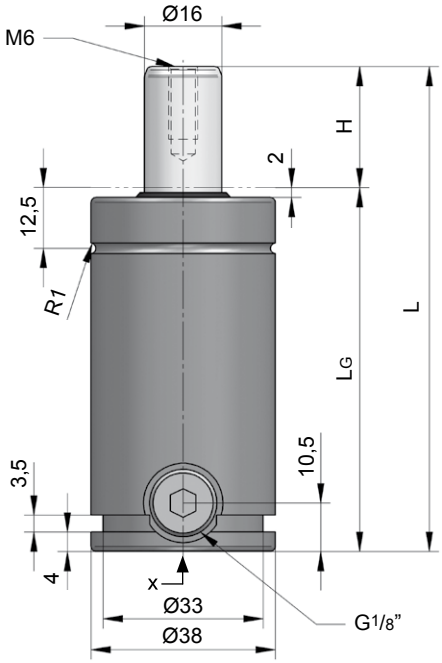
GDF ohne Ventil nur im Schlauch-verbund einsetzbar!

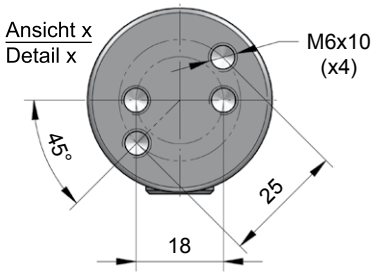
Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

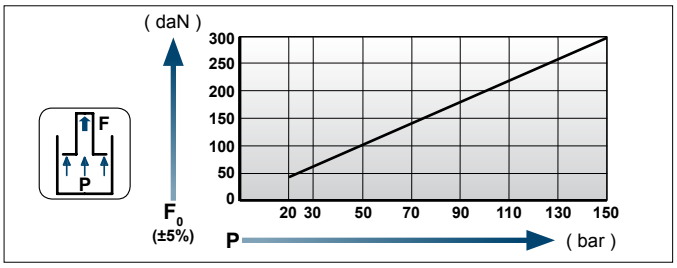
Gas spring without valve only in hose-assemblage applicable.

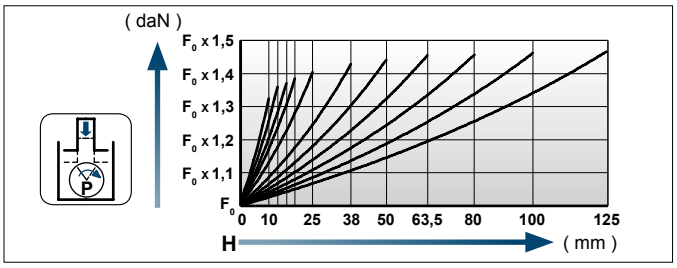
NC.071.18. 00250.025

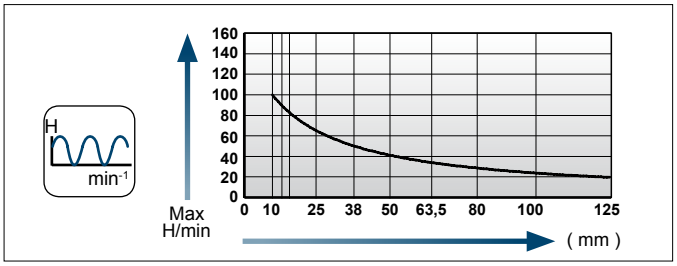




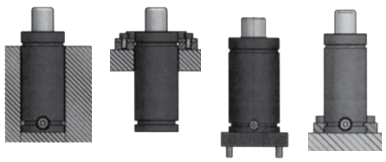
H Hub / Stroke	L ±0,25	LG	Kraft / Force (125 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	70	60	250	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
012,7	75,4	62,7	250	
016	82	66	250	
019	88	69	250	
025	100	75	250	
038	126	88	250	
050	150	100	250	
063,5	177	113,5	250	
080	210	130	250	
100	250	150	250	
125	300	175	250	



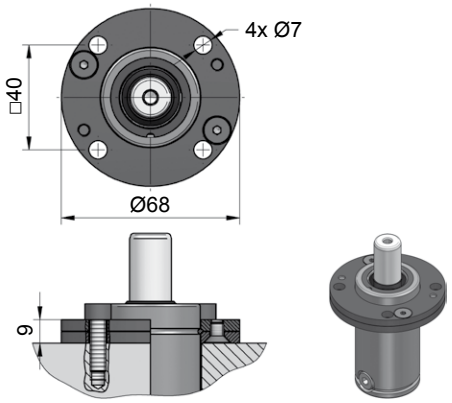




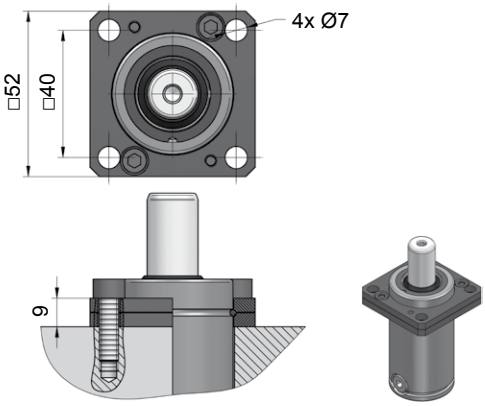
Einbaubeispiele / Flange mounting options



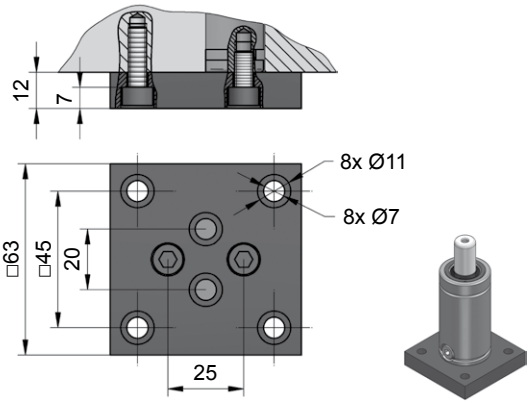
Flansche für / Flanges for **NC.071.18.00250**



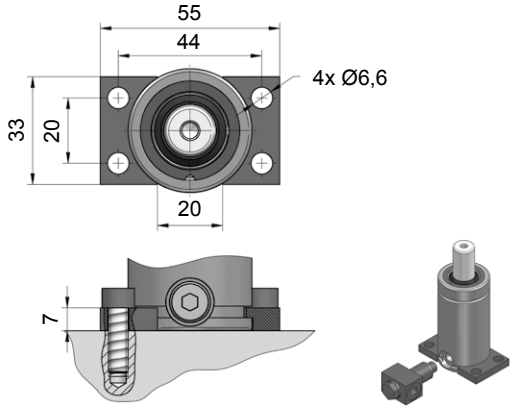
NC.88.00.038.0114



NC.88.00.038.0134



NC.88.00.038.0276

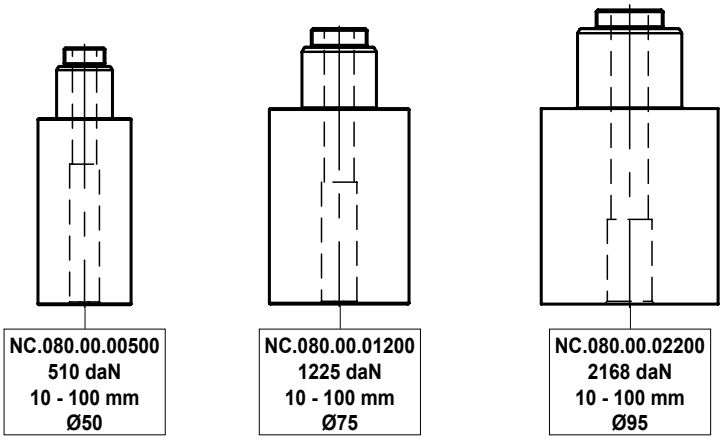


NC.88.00.038.0305

[NC]

Größenübersicht Serie NC.080.00

Gas spring index 080.00 series



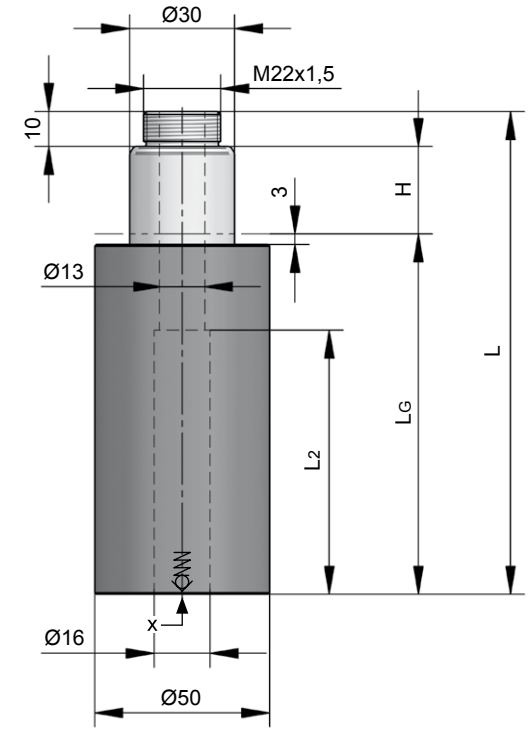
NC.080.00.00500

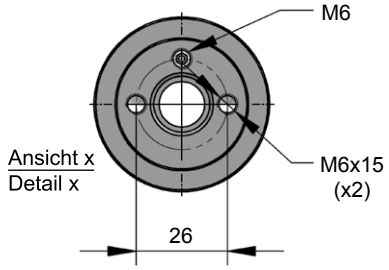
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Specifications:

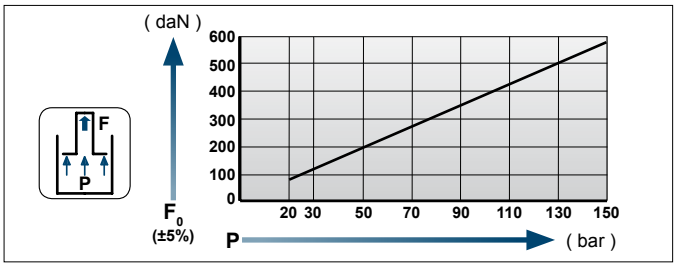
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

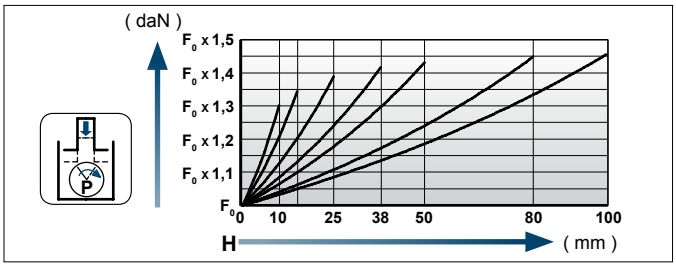


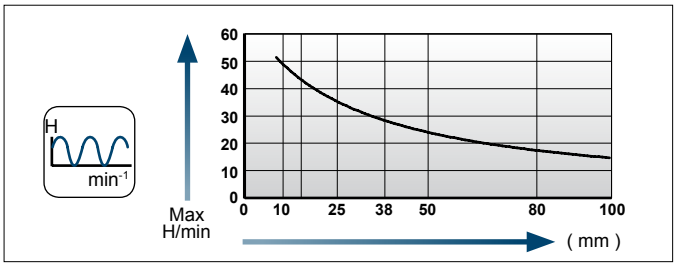


NC.080.00.00500.100

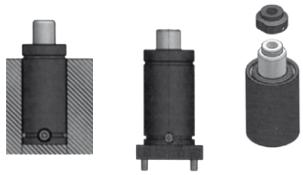
H Hub / Stroke	L ±0,25	LG	L2 ±0,1	Kraft / Force (130 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	108	88	45,5	510	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	118	93	55,5	510	
025	138	103	75,5	510	
038	164	116	85,5	510	
050	188	128	97,5	510	
080	248	158	127,5	510	
100	288	178	147,5	510	





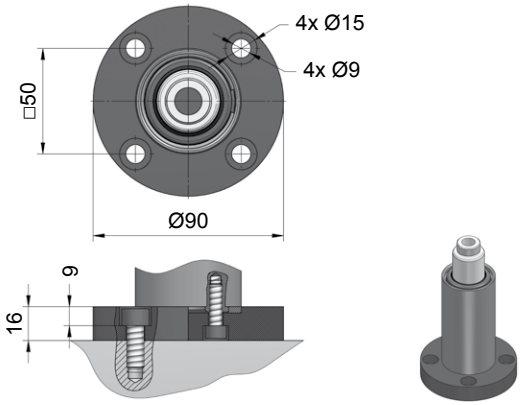


Einbaubeispiele / Flange mounting options

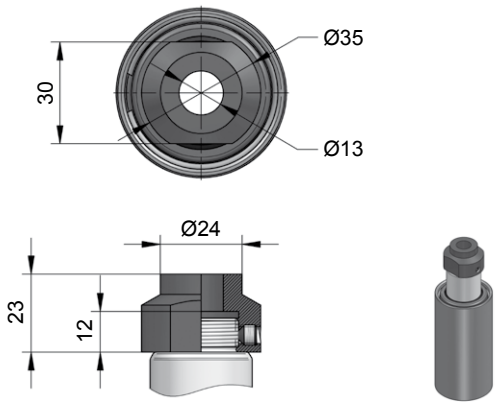


[NC]

Flansche für / Flanges for **NC.080.00.00500**



NC.88.00.050.0231



NC.88.00.050.0533

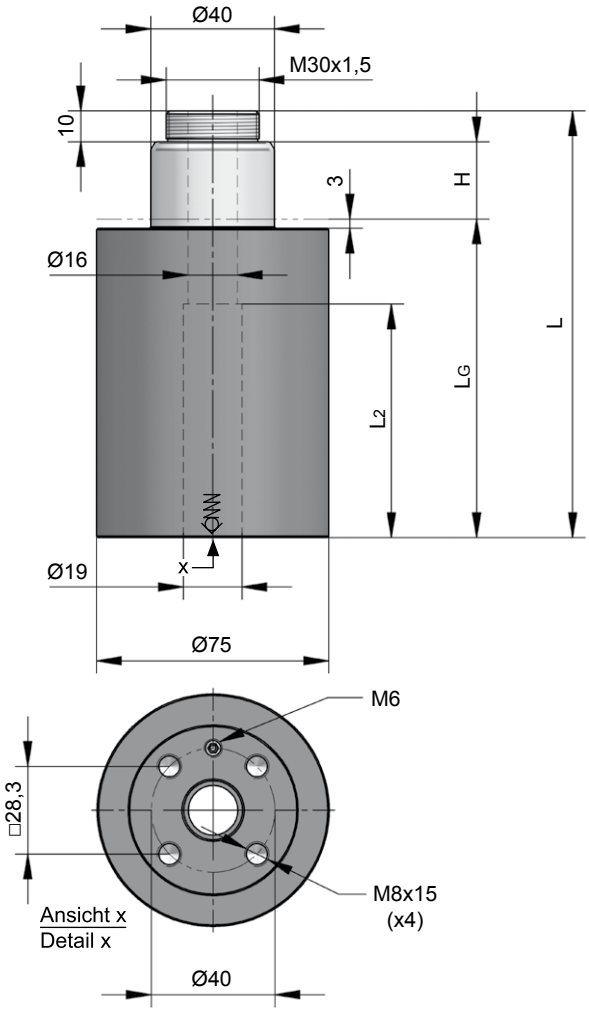
NC.080.00.01200

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

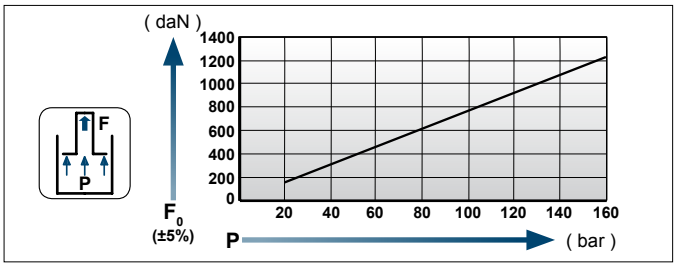
Specifications:

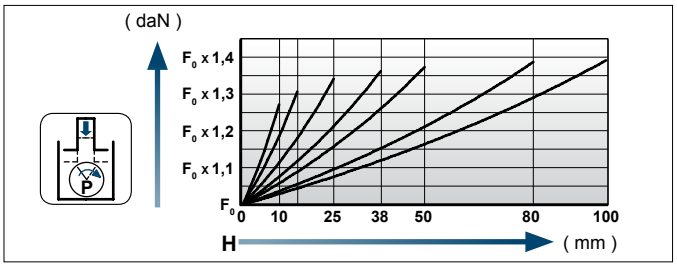
Pressure medium:	N_2
$P_{max.}$ (20 °C):	160 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

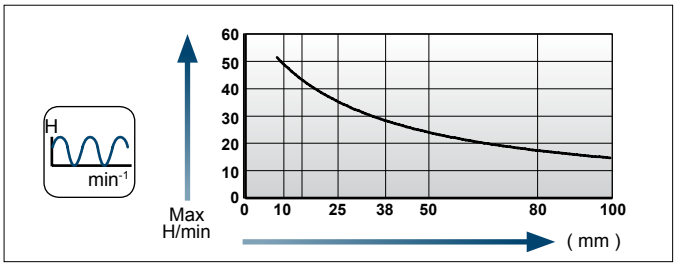


NC.080.00.01200.100

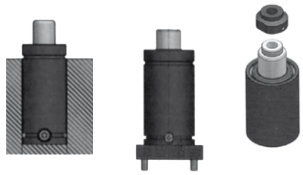
H Hub / Stroke	L ±0,25	LG	L2 ±0,1	Kraft / Force (160 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	108	88	45,5	1225	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	118	93	55,5	1225	
025	138	103	75,5	1225	
038	164	116	85,5	1225	
050	188	128	97,5	1225	
080	248	158	127,5	1225	
100	288	178	147,5	1225	





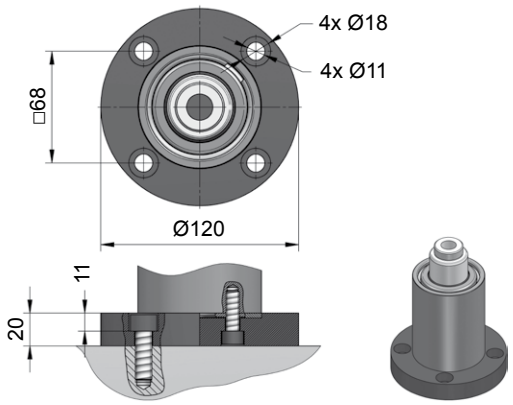


Einbaubeispiele / Flange mounting options

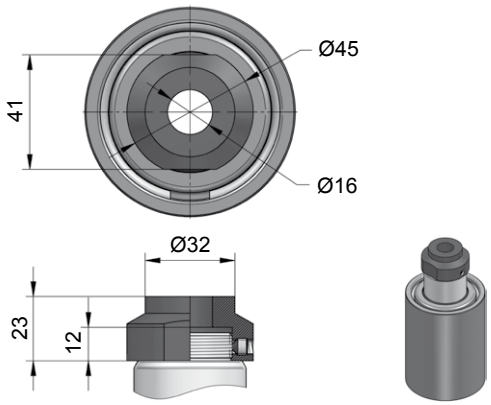


[NC]

Flansche für / Flanges for **NC.080.00.01200**



NC.88.00.075.0231



NC.88.00.075.0533

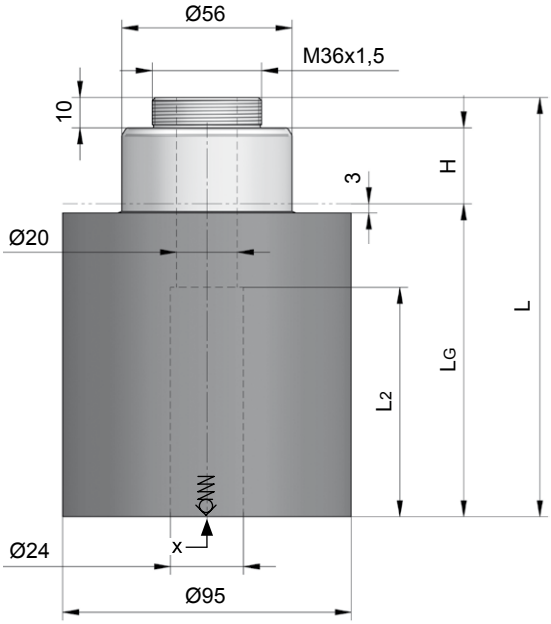
NC.080.00.02200

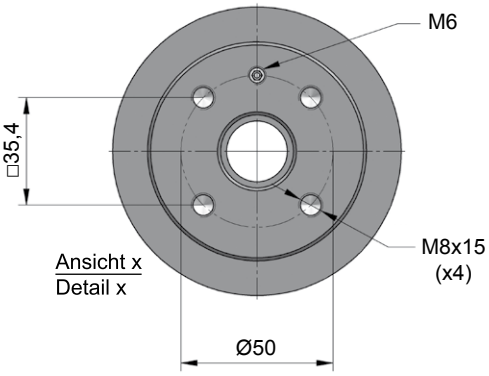
Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	0,5 m/s

Specifications:

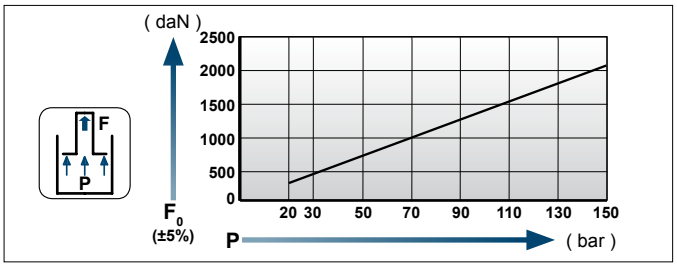
Pressure medium:	N_2
$P_{max.}$ (20 °C):	150 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	0,5 m/s

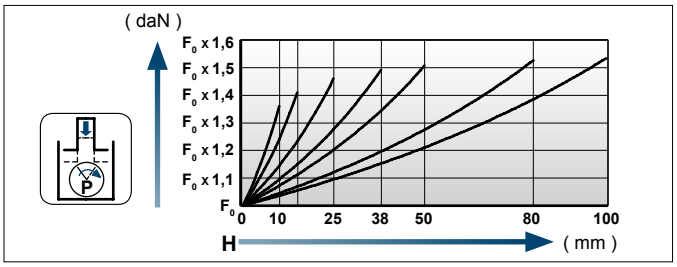


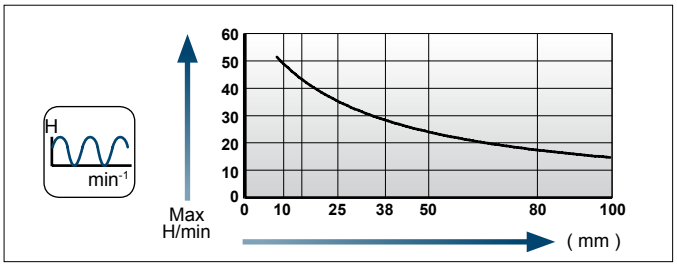


NC.080.00.02200.025

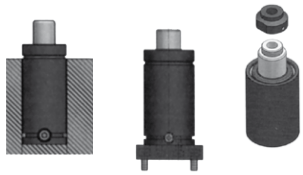
H Hub / Stroke	L ±0,25	LG	L2 ±0,1	Kraft / Force (150 bar) Anfang / Initial [daN]	Ende / Final [daN]
010	108	88	45,5	2168	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
015	118	93	55,5	2168	
025	138	103	75,5	2168	
038	164	116	85,5	2168	
050	188	128	97,5	2168	
080	248	158	127,5	2168	
100	288	178	147,5	2168	



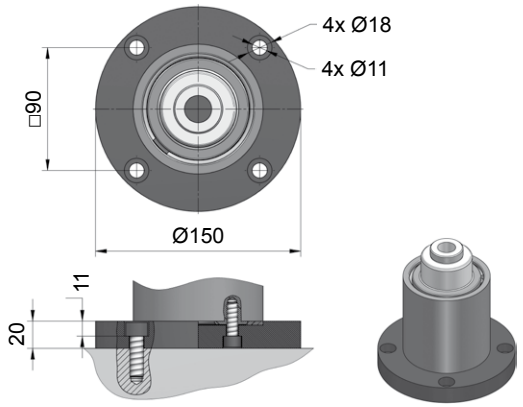




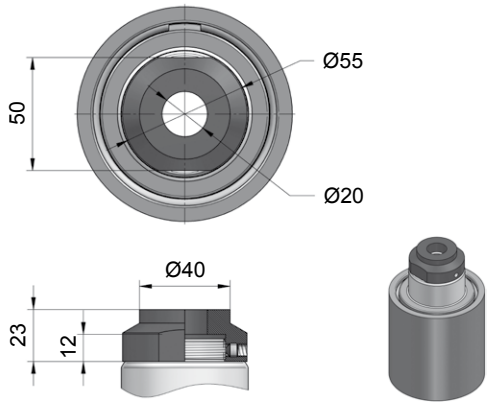
Einbaubeispiele / Flange mounting options



Flansche für / Flanges for **NC.080.00.02200**



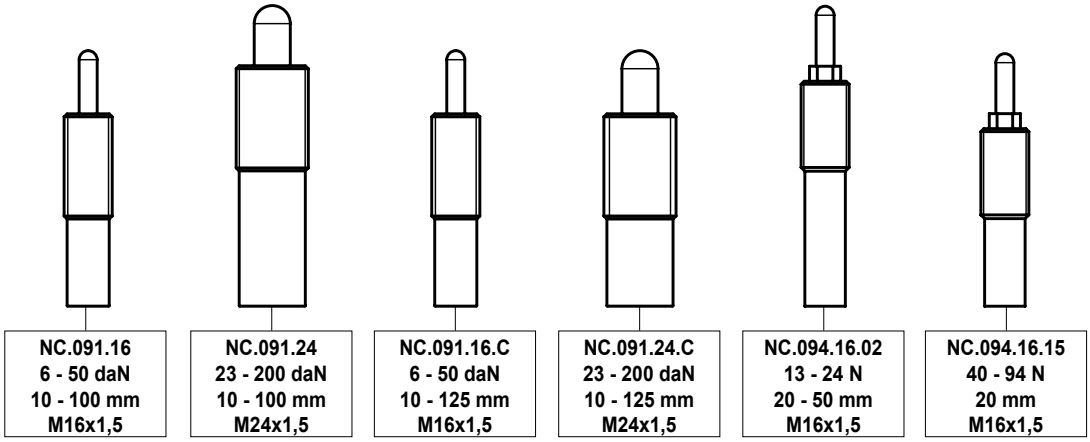
NC.88.00.095.0231



NC.88.00.095.0533

Größenübersicht Serie NC.09X

Gas spring index 09X series



NC.091.16

Innensechskant

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

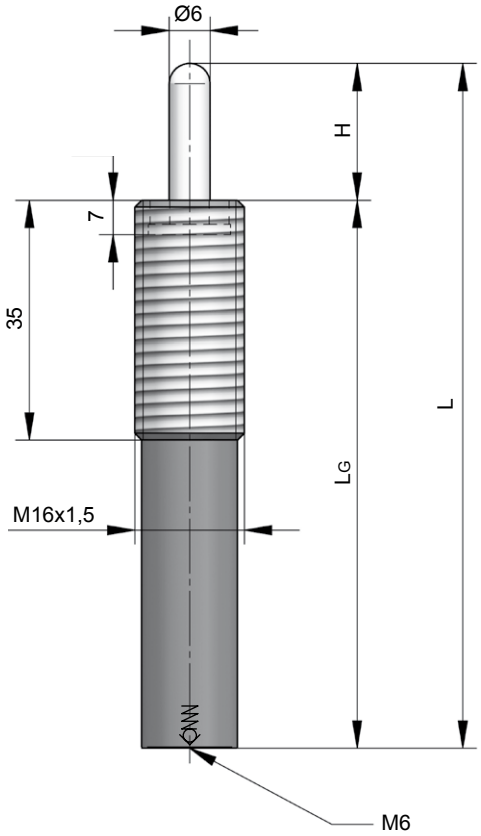
Einwegfeder ist nicht reparierbar!

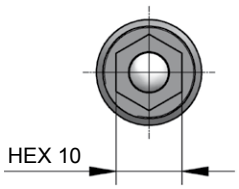
Hexagon socket

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

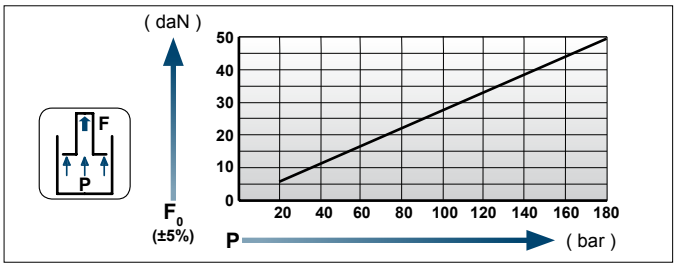


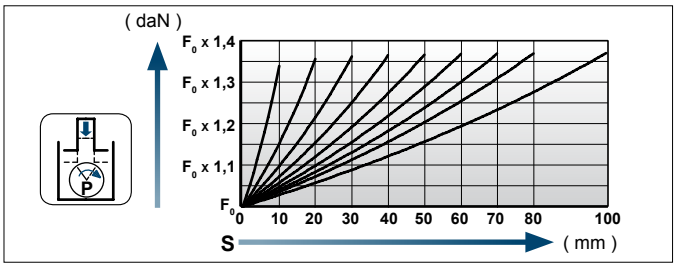


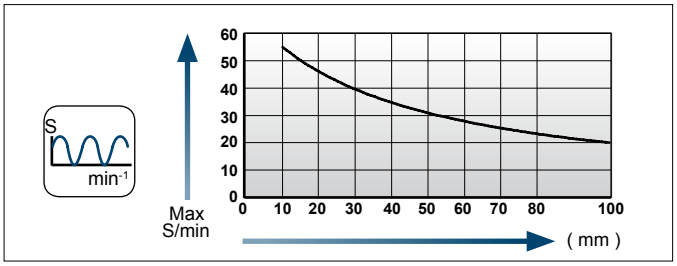
NC.091.16.
00011.200.070

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.091.16.00006	Grün / Green	20	6	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.091.16.00011	Blau / Blue	40	11	
NC.091.16.00021	Rot / Red	75	21	
NC.091.16.00042	Gelb / Yellow	150	42	
NC.091.16.00050	Braun / Brown	180	50	

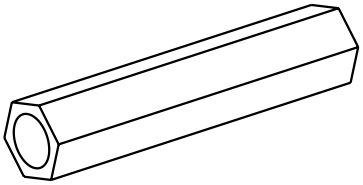
Hub / Stroke	L ±0,25	LG
010	**080**	70
020	**100**	80
030	**120**	90
040	**140**	100
050	**160**	110
060	**180**	120
070	**200**	130
080	**220**	140
100	**260**	160







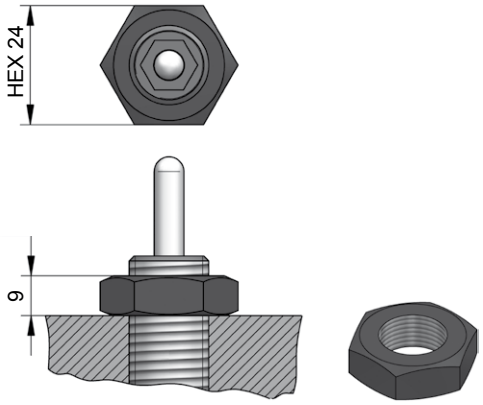
Montageschlüssel / Key



NCTU.LPT.10

[NC]

Kontermutter für / Locknut for **NC.091.16**



NC.88.00.016.0523

NC.091.24

Innensechskant

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

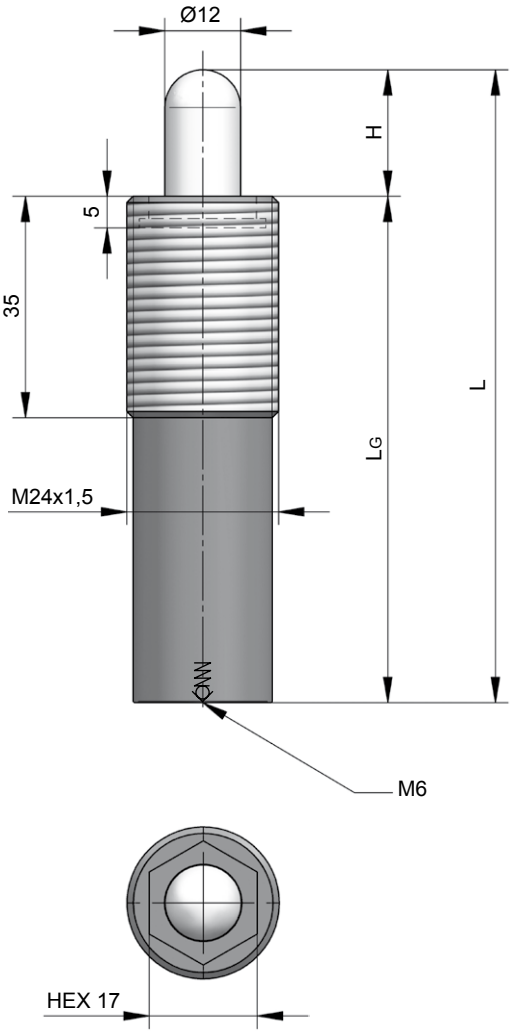
Einwegfeder ist nicht reparierbar!

Hexagon socket

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

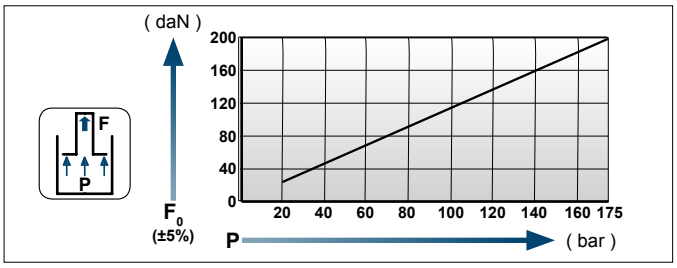
One-way spring is irreparable!

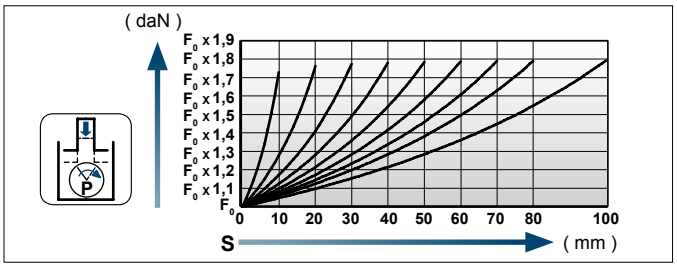


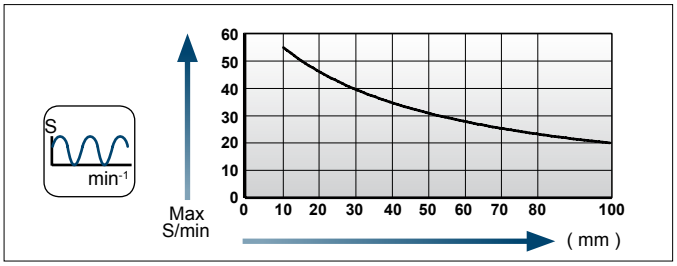
**NC.091.24.
00045.160.050**

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.091.24.00023	Grün / Green	20	23	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.091.24.00045	Blau / Blue	40	45	
NC.091.24.00085	Rot / Red	75	85	
NC.091.24.00170	Gelb / Yellow	150	170	
NC.091.24.00200	Braun / Brown	175	200	

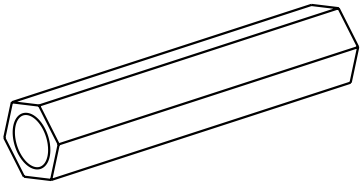
Hub / Stroke	L ±0,25	LG
010	080	70
020	100	80
030	120	90
040	140	100
050	160	110
060	180	120
070	200	130
080	220	140
100	260	160





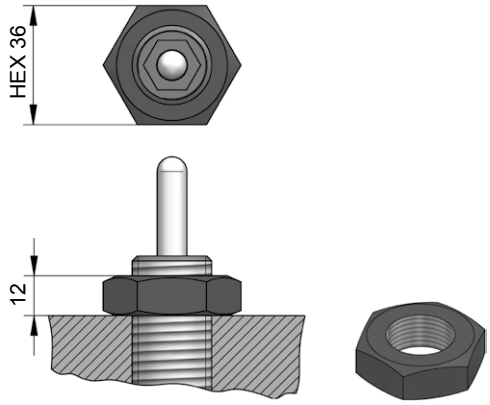


Montageschlüssel / Key



NCTU.LPT.17

Kontermutter für / Locknut for **NC.091.24**



NC.88.00.016.0523

NC.091.16.C

Innensechskant

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

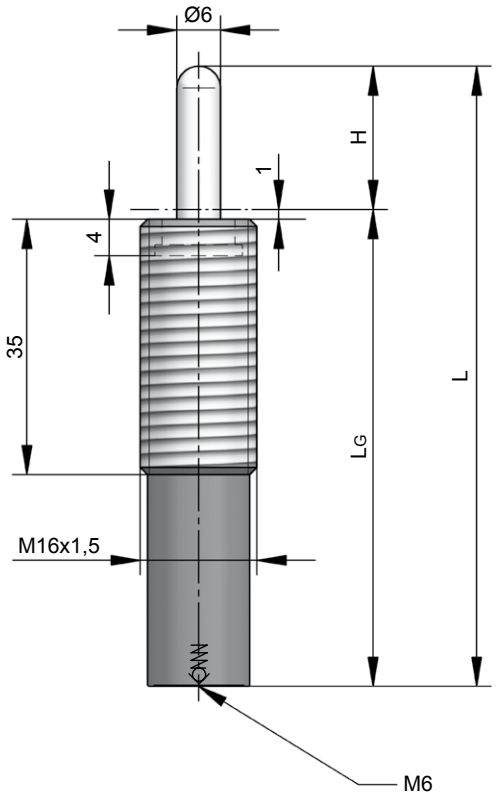
Einwegfeder ist nicht reparierbar!

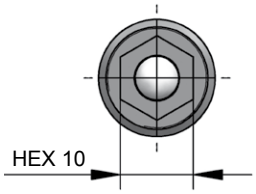
Hexagon socket

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

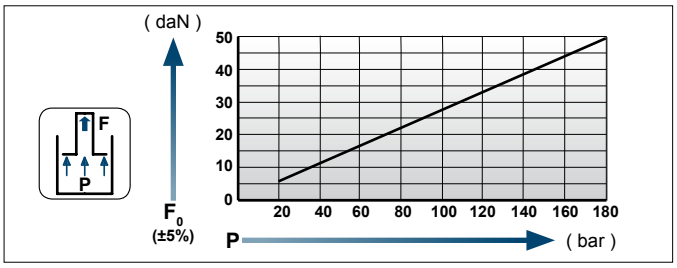


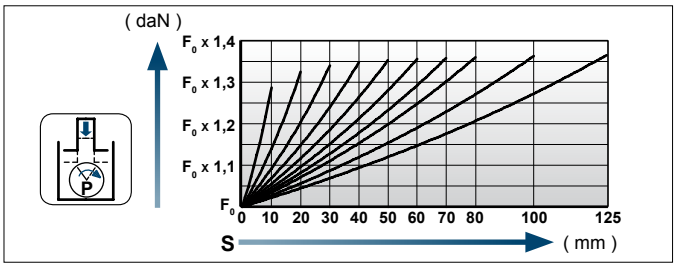


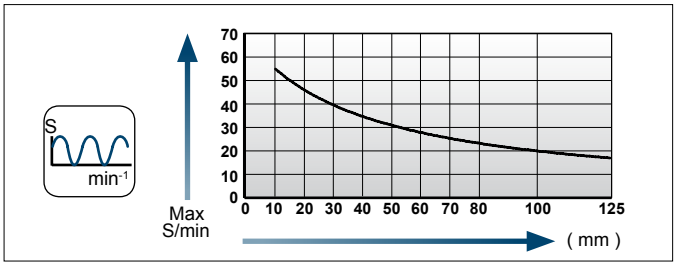
NC.091.16.C.
00011.105.030

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.091.16.C.00006	Grün / Green	20	6	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.091.16.C.00011	Blau / Blue	40	11	
NC.091.16.C.00021	Rot / Red	75	21	
NC.091.16.C.00042	Gelb / Yellow	150	42	
NC.091.16.C.00050	Braun / Brown	180	50	

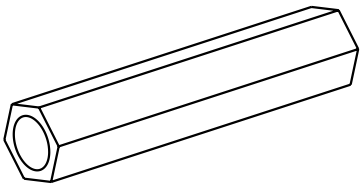
Hub / Stroke	L ±0,25	LG
010	**065**	55
020	**085**	65
030	**105**	75
040	**125**	85
050	**145**	95
060	**165**	105
070	**185**	115
080	**205**	125
100	**245**	145
125	**295**	170







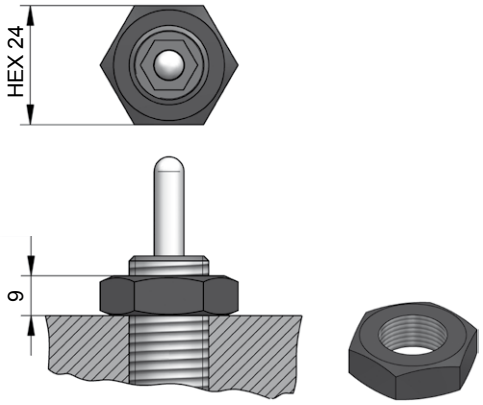
Montageschlüssel / Key



NCTU.LPT.10

[NC]

Kontermutter für / Locknut for **NC.091.16.C**



NC.88.00.016.0523

NC.091.24.C

Innensechskant

Technische Daten:

Medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

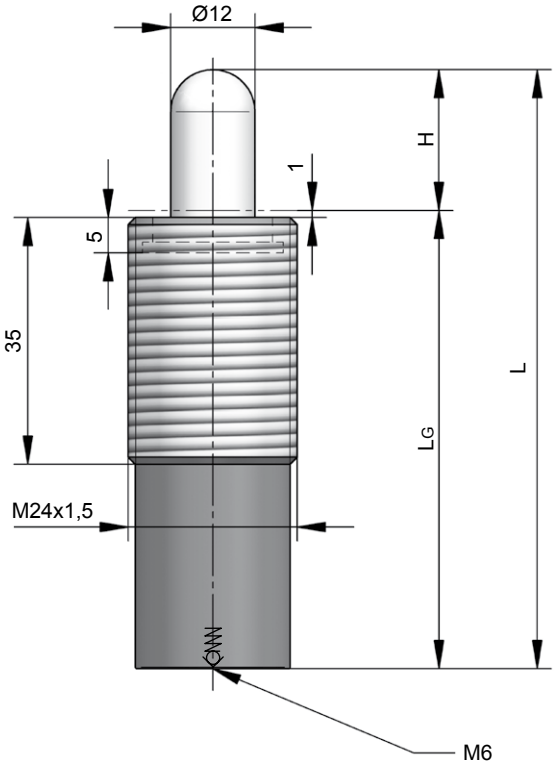
Einwegfeder ist nicht reparierbar!

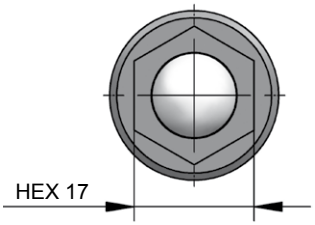
Hexagon socket

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	175 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

One-way spring is irreparable!

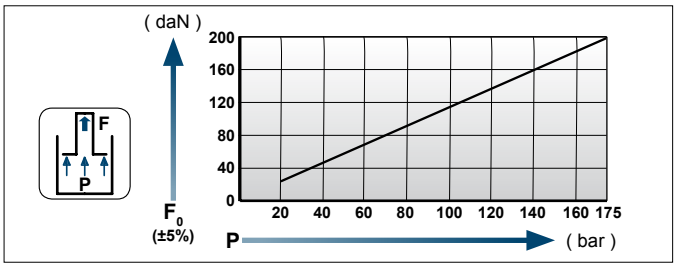


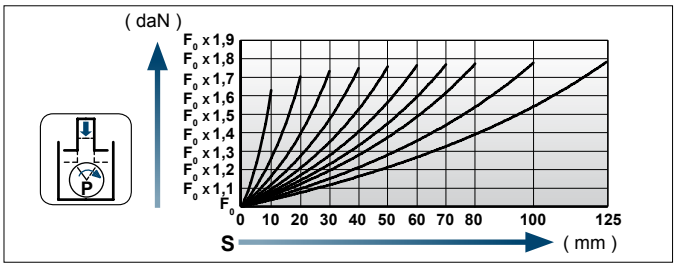


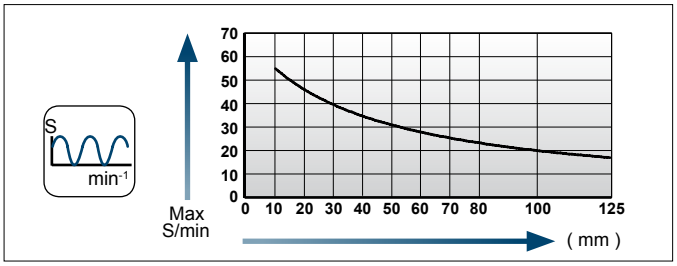
NC.091.24.C.
00045.145.050

Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Kraft / Force Ende / Final [daN]
NC.091.24.C.00023	Grün / Green	20	23	Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below)
NC.091.24.C.00045	Blau / Blue	40	45	
NC.091.24.C.00085	Rot / Red	75	85	
NC.091.24.C.00170	Gelb / Yellow	150	170	
NC.091.24.C.00200	Braun / Brown	175	200	

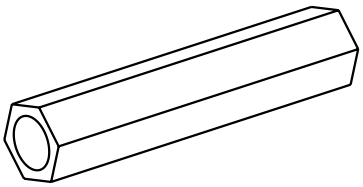
Hub / Stroke	L ±0,25	LG
010	**065**	55
020	**085**	65
030	**105**	75
040	**125**	85
050	**145**	95
060	**165**	105
070	**185**	115
080	**205**	125
100	**245**	145
125	**295**	170





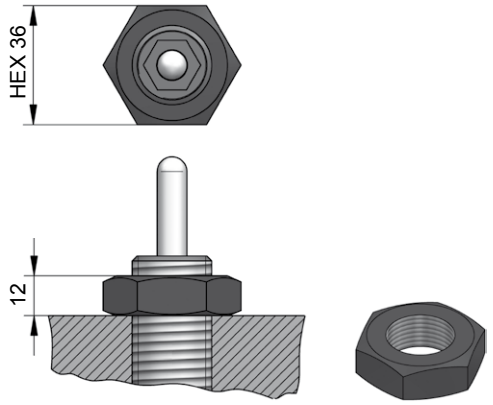


Montageschlüssel / Key



NCTU.LPT.17

Kontermutter für / Locknut for **NC.091.24.C**

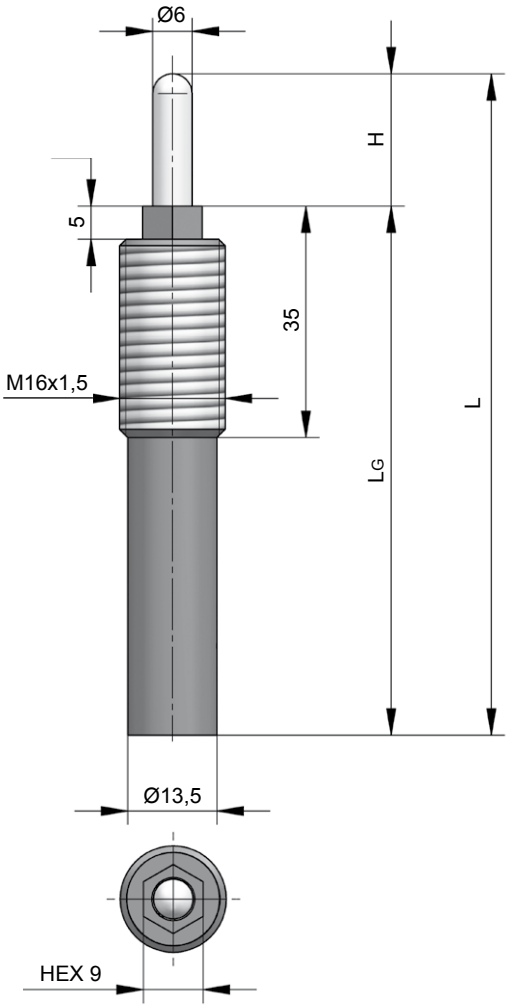


NC.88.00.016.0523

NC.094.16.02

Abdrückstift mit Stahlfeder nach VDI 3004

Plungers with steel spring acc. to VDI 3004



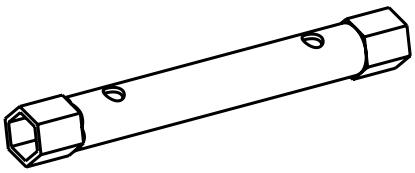
NC.094.16.02.100.020

H Hub / Stroke	L ±0,25	LG	Kraft / Force min. [N]	Kraft / Force max. [N]
020	**100**	80	24	186
050	**200**	150	13	47

NCTU.LPV.8-9

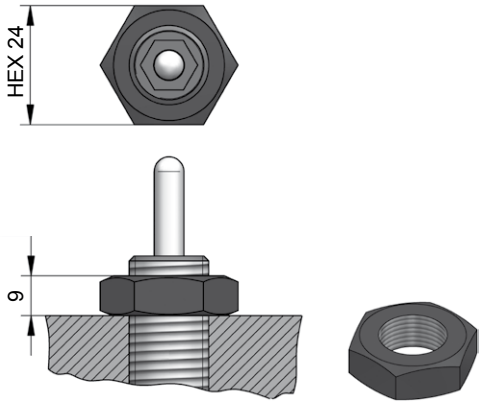
Montageschlüssel **Key**

NCTU.LPV.8-9



[NC]

Kontermutter für / Locknut for **NC.094.16.02**

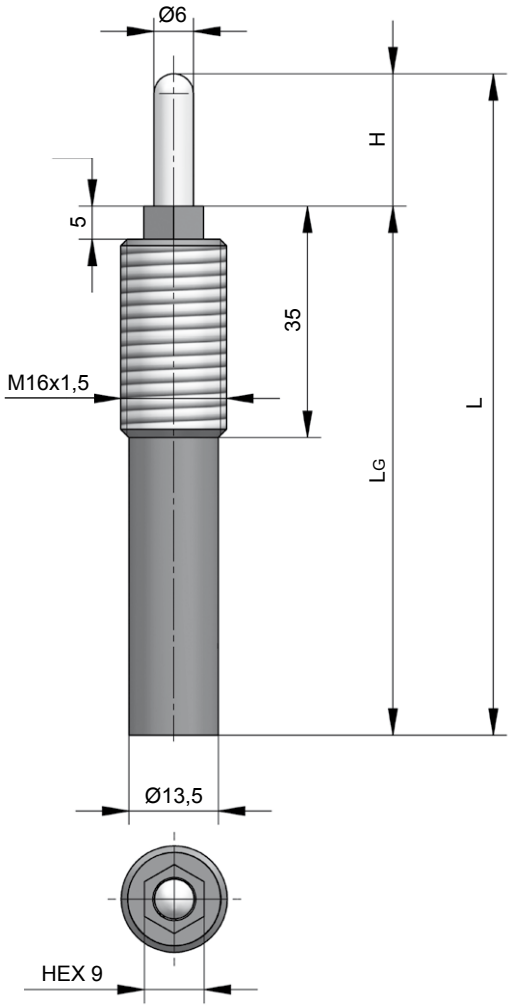


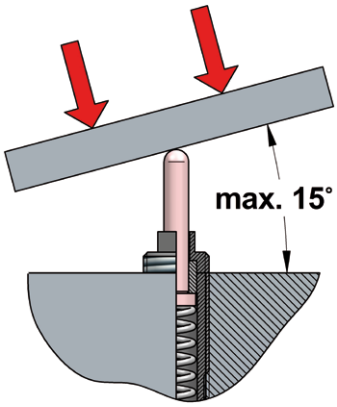
NC.88.00.016.0523

NC.094.16.15

Abdrückstift mit Stahlfeder
für den Einsatz bis max. 15°

Plungers with steel spring
for use up to max. 15°





NC.094.16.15.
100.020

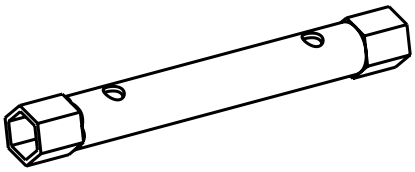
H Hub / Stroke	L ±0,25	LG	Kraft / Force min. [N]	 max. [N]
020	**100**	80	40	94

NCTU.LPV.8-9

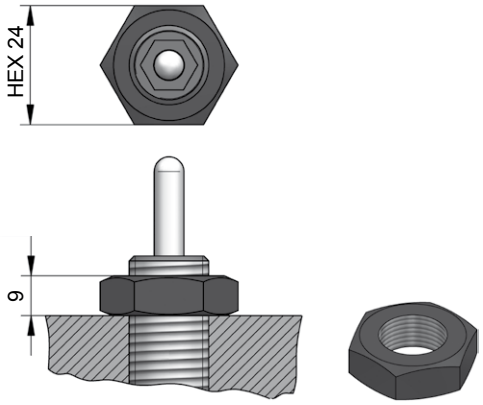
Montageschlüssel

Key

NCTU.LPV.8-9



Kontermutter für / Locknut for **NC.094.16.15**



NC.88.00.016.0523

zertifiziert ISO 9001 for you Cert

MSPN GMBH

Märkische Stanz-Partner

[**nitrocyl**Gasdruckfedern]

[**nitrocyl**GasSprings]

Pneumatik-Federn / Pneumatic springs

NitroCyl Pneumatik-Federn können als Alternative zu Schrauben-, Gasdruck- oder Urethanfedern in Werkzeugen, Vorrichtungen oder Pressen eingebaut werden.
Sie werden in metrischen und zölligen Abmessungen angeboten.

Vorteile:
- Kompakte Bauweise
- Hohe Anfangskraft bei geringem Druckanstieg
- Lange Lebensdauer (Hohe Stückzahlen)
- Minimale Wartung
- Keine Ermüdung
- Niedrige Kosten durch Anschluss an ein vorhandenes Druckluftsystem

Hinweise:
Die Pneumatik-Federn werden über das Regulierventil **NCTU.00.35** an das betriebliche Druckluftnetz angeschlossen. Um das Eindringen von Feuchtigkeit aus dem Druckluftnetz in die Feder zu verhindern, muss ein Feuchtigkeits-Abscheider installiert werden.
(Feuchtigkeit minimiert den Druckraum, erhöht somit den Druck und kann die Feder zerstören.)

Arbeitsweise:
Durch Einfahren der Kolbenstange wird die in der Pneumatik-Feder vorhandene Luft komprimiert und der Druck erhöht. Das angebaute Regulierventil verhindert den Rückfluss der Luft aus der Feder in das Druckluftnetz. Werden Netz und Feder getrennt, öffnet das Regulierventil und die Pneumatik-Feder ist drucklos.

Achtung:
Der Betrieb der Pneumatik-Feder ist nur mit einem Regulierventil erlaubt.

NitroCyl pneumatic springs can be used as alternatives for die springs, gas springs and urethan springs in dies, fixtures and presses.
They are available in metric and inch dimensions.

Advantages:
- Compact design
- High initial force at low pressure-increase
- Long lifetime (high press-part quantities)
- Less maintenance
- No „tiring“
- Low cost due to installation at local air-pressure system

Note:
The valve-adapter **NCTU.00.35** connects the pneumatic springs with the local air-pressure system.
To avoid penetration of moisture into the spring (this reduces space for air, increases internal pressure and eventually destroys the spring), a corresponding de-moisturizer must be installed.

Function:
The down-movement of the rod increases the internal pressure.
The control-valve prevents the air from going back into the local air-pressure system.
If system and spring are separated, the valve opens and the spring does not hold pressure any more.

Attention:
The pneumatic spring must only be used with a control valve.

NC.110.01.00080

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

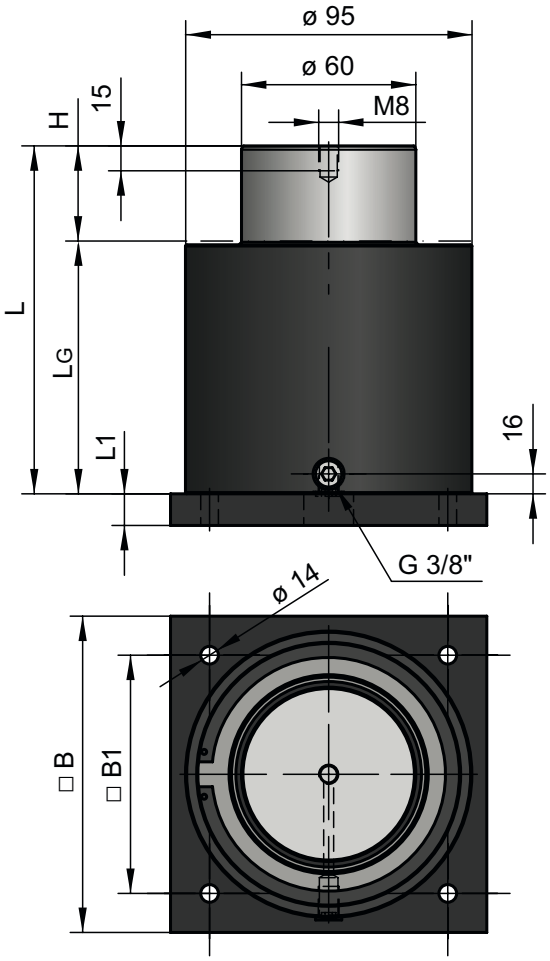
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s

Attention:
The pneumatic spring must only be used with a control valve.

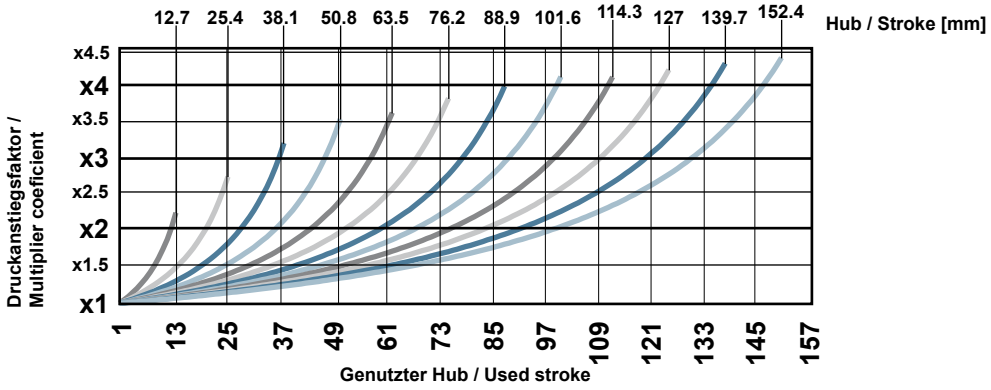
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.01.00080.012,7



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
012,7	111,3	98,6	19,1	114	87,4
025,4	136,7	111,3	19,1	114	87,4
038,1	162,1	124,0	19,1	114	87,4
050,8	187,5	136,7	19,1	114	87,4
063,5	212,9	149,4	19,1	114	87,4
076,2	238,3	162,1	19,1	114	87,4
088,9	263,7	174,8	19,1	114	87,4
101,6	289,1	187,5	19,1	114	87,4
114,3	314,5	200,2	19,1	114	87,4
127,0	339,9	212,9	19,1	114	87,4
139,7	365,3	225,6	19,1	114	87,4
152,4	390,7	238,3	19,1	114	87,4



NC.110.01.00100

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

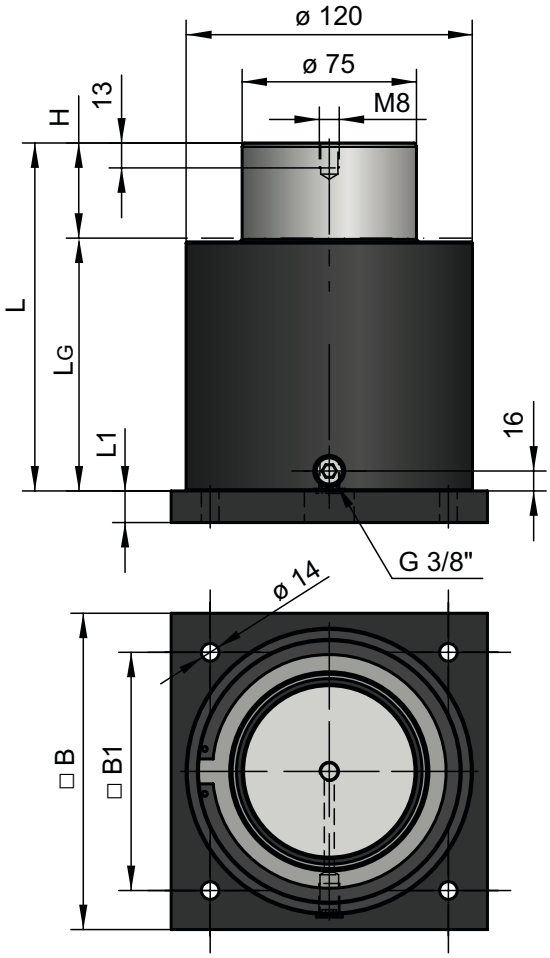
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s.

Attention:
The pneumatic spring must only be used with a control valve.

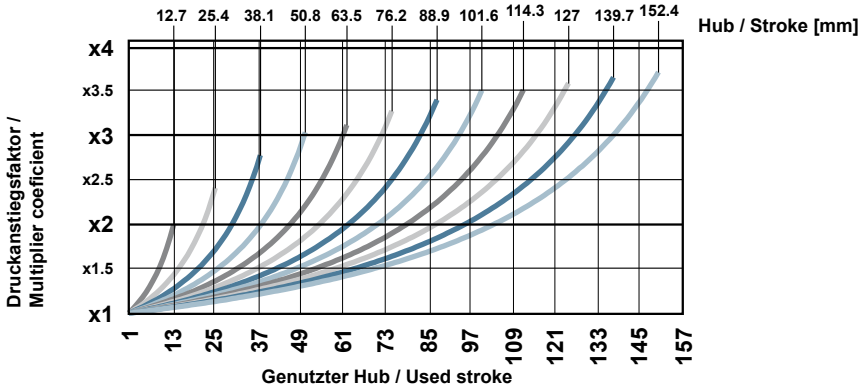
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.01.00100.050,8



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
012,7	111,3	98,6	19,1	127	101,6
025,4	136,7	111,3	19,1	127	101,6
038,1	162,1	124,0	19,1	127	101,6
050,8	187,5	136,7	19,1	127	101,6
063,5	212,9	149,4	19,1	127	101,6
076,2	238,3	162,1	19,1	127	101,6
088,9	263,7	174,8	19,1	127	101,6
101,6	289,1	187,5	19,1	127	101,6
114,3	314,5	200,2	19,1	127	101,6
127,0	339,9	212,9	19,1	127	101,6
139,7	365,3	225,6	19,1	127	101,6
152,4	390,7	238,3	19,1	127	101,6



NC.110.01.00150

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

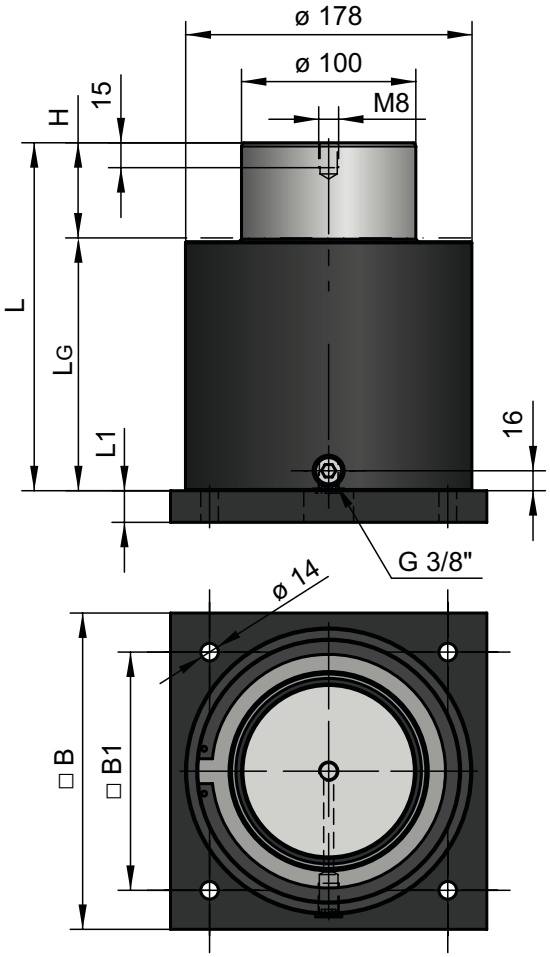
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s

Attention:
The pneumatic spring must only be used with a control valve.

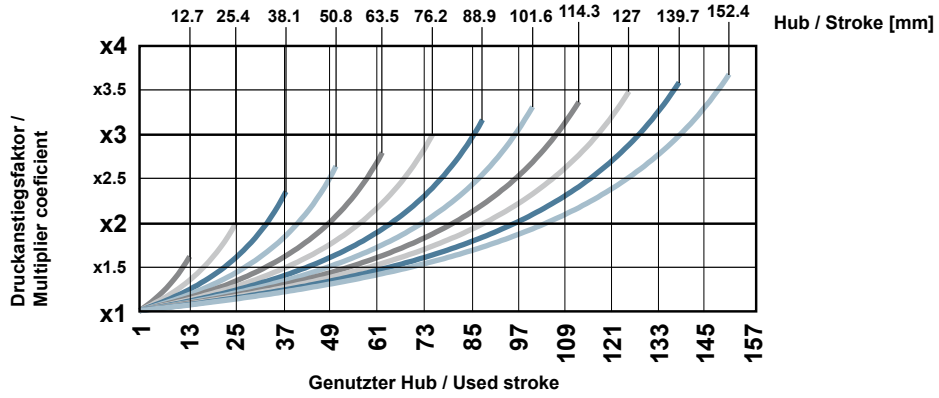
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.01.00150.050,8



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
012,7	152,4	139,7	25,4	190	152,4
025,4	177,8	152,4	25,4	190	152,4
038,1	203,2	165,1	25,4	190	152,4
050,8	228,6	177,8	25,4	190	152,4
063,5	254,0	190,5	25,4	190	152,4
076,2	279,4	203,2	25,4	190	152,4
088,9	304,8	215,9	25,4	190	152,4
101,6	330,2	228,6	25,4	190	152,4
114,3	355,6	241,3	25,4	190	152,4
127,0	381,0	254,0	25,4	190	152,4
139,7	406,4	266,7	25,4	190	152,4
152,4	431,8	279,4	25,4	190	152,4



NC.110.01.00200

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

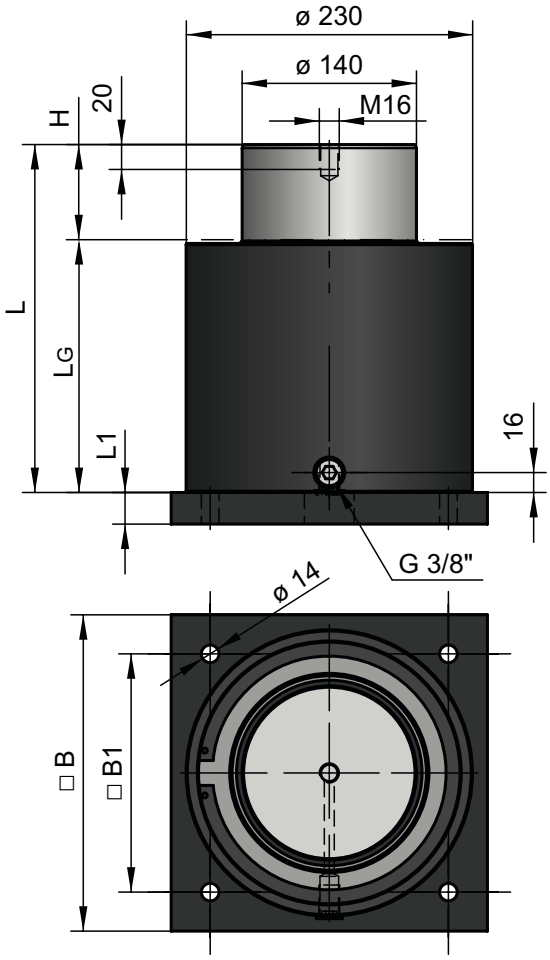
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s

Attention:
The pneumatic spring must only be used with a control valve.

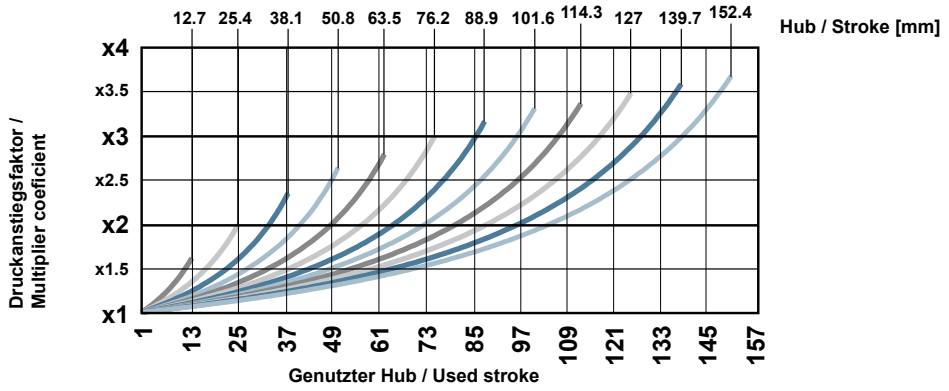
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.01.00200.063,5



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
012,7	152,4	139,7	25,4	254	191,3
025,4	177,8	152,4	25,4	254	191,3
038,1	203,2	165,1	25,4	254	191,3
050,8	228,6	177,8	25,4	254	191,3
063,5	254,0	190,5	25,4	254	191,3
076,2	279,4	203,2	25,4	254	191,3
088,9	304,8	215,9	25,4	254	191,3
101,6	330,2	228,6	25,4	254	191,3
114,3	355,6	241,3	25,4	254	191,3
127,0	381,0	254,0	25,4	254	191,3
139,7	406,4	266,7	25,4	254	191,3
152,4	431,8	279,4	25,4	254	191,3



Technische Information:

Das Regulierventil **NCTU.00.35** dient zum Befüllen und Ablassen der Druckluft.
Wird die Pneumatik-Feder an das Druckluftnetz angeschlossen, strömt solange Druckluft in die Feder, bis der Druck dem Netzdruck gleicht. Wird die Pneumatik-Feder vom Druckluftnetz getrennt, öffnet das Regulierventil und die Luft kann aus der Feder entweichen.

Achtung:
Pneumatik-Federn dürfen nie ohne Regulierventil eingesetzt werden.

Technical information:

The control valve **NCTU.00.35** is used for filling and bleeding of air pressure.
If connected, the local air-pressure system fills the pneumatic spring until the pressure is equal on both sides.
If system and spring are separated, the valve opens and the spring does not hold pressure any more.

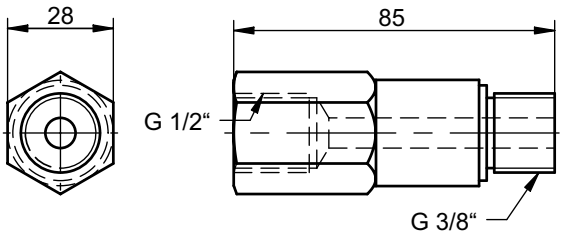
Attention:
The pneumatic spring must only be used with a control valve.

NCTU.00.35

NEU! NEW!

Regulierventil | **Control valve**

NCTU.00.35

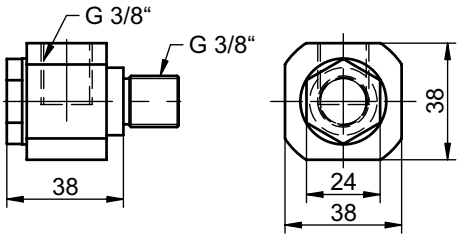


NCTU.00.32

NEU! NEW!

Winkelstück 90° | **Threaded joint, 90°**

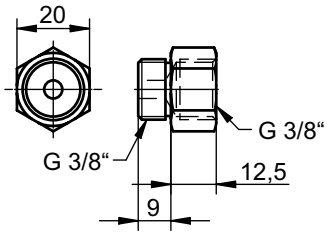
NCTU.00.32



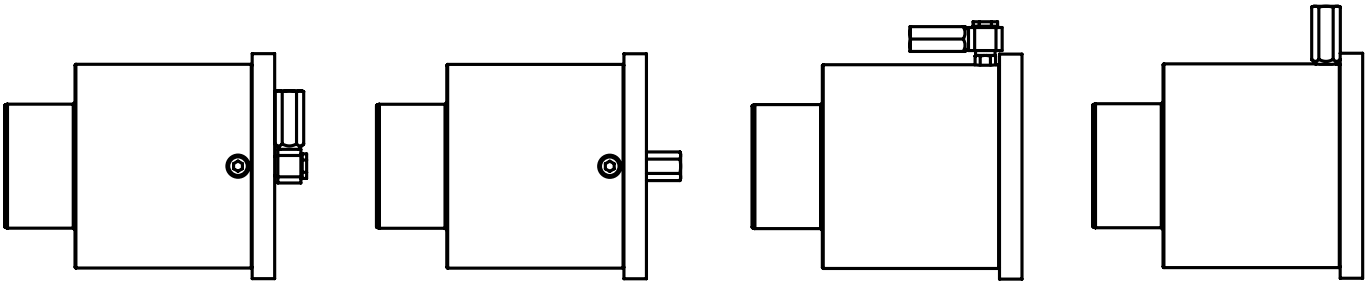
NCTU.00.26

Anschlussstück, gerade | **Straight Fitting**

NCTU.00.26



Anschlussmöglichkeiten / Connection opportunities:



NC.110.02.00080

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

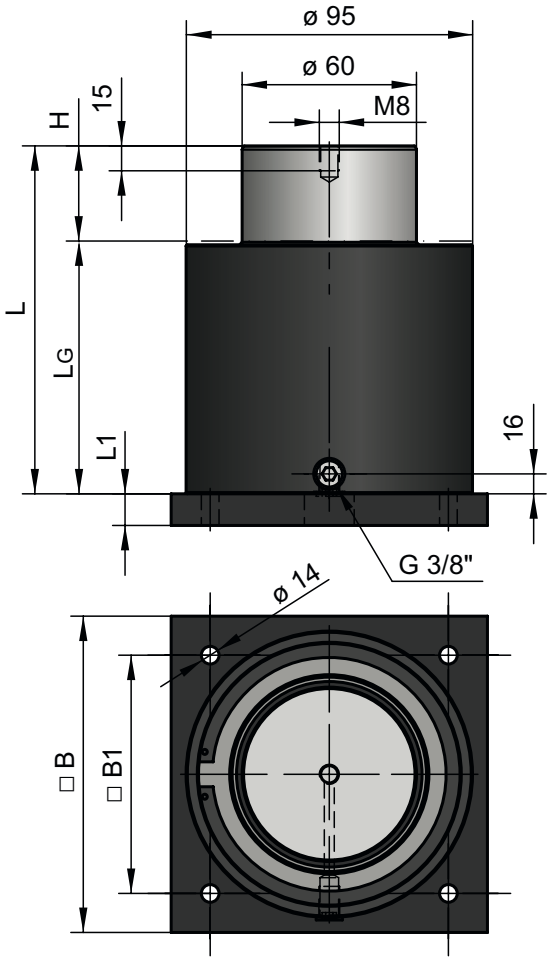
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s

Attention:
The pneumatic spring must only be used with a control valve.

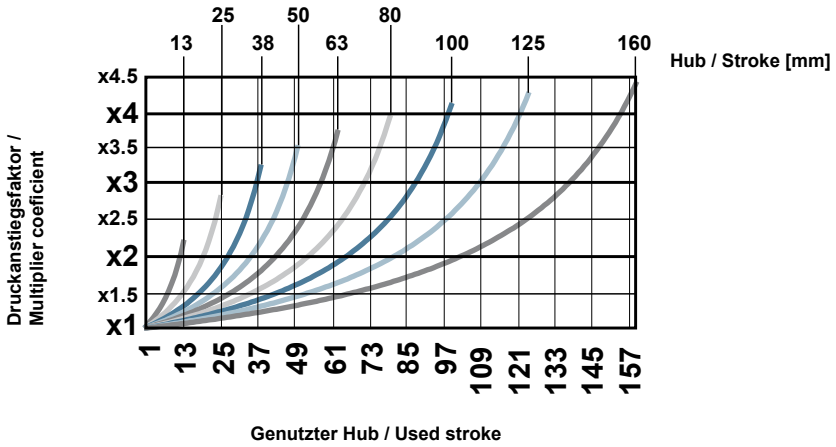
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.02.00080.013



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
013	112	99	20	115	90
025	136	111	20	115	90
038	162	124	20	115	90
050	186	136	20	115	90
063	212	149	20	115	90
080	246	166	20	115	90
100	286	186	20	115	90
125	336	211	20	115	90
160	406	246	20	115	90



NC.110.02.00100

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

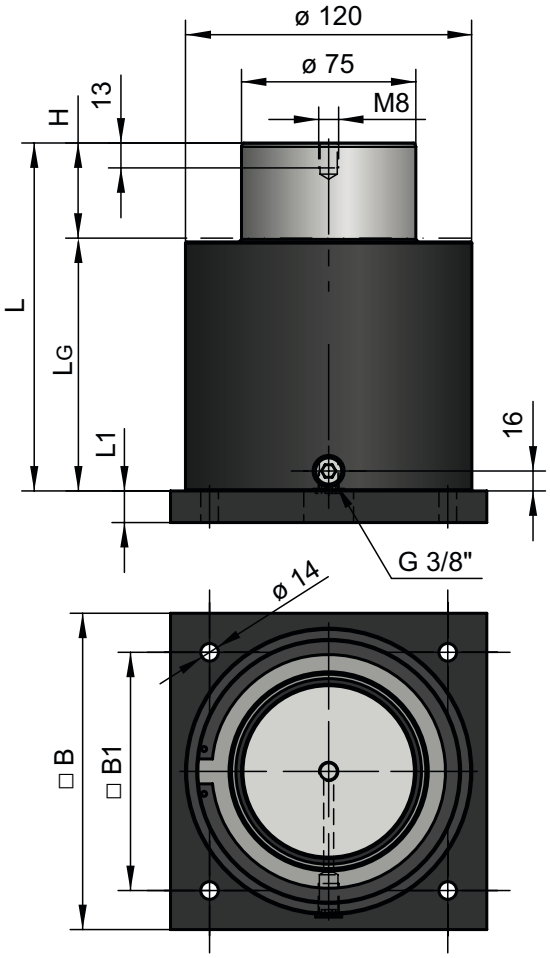
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s

Attention:
The pneumatic spring must only be used with a control valve.

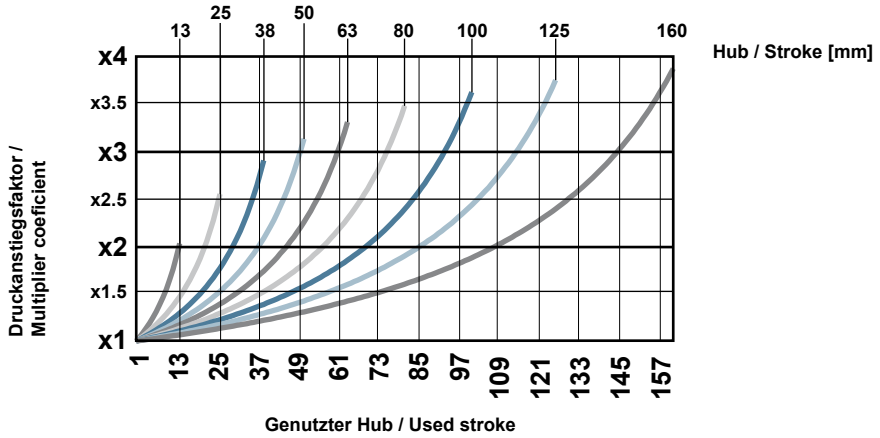
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.02.00100.050



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
013	112	99	20	130	105
025	136	111	20	130	105
038	162	124	20	130	105
050	186	136	20	130	105
063	212	149	20	130	105
080	246	166	20	130	105
100	286	186	20	130	105
125	336	211	20	130	105
160	406	246	20	130	105



NC.110.02.00150

Achtung:
Die Pneumatik-Federn dürfen nur in Betrieb genommen werden, wenn diese mit einem Regulierventil bestückt sind.

Technische Daten:

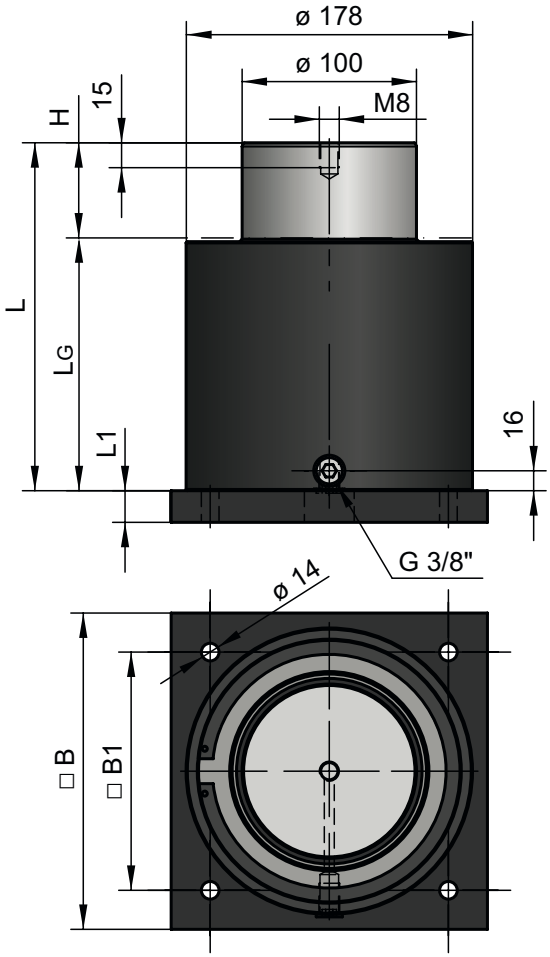
Medium:	Luft
Max. Fülldruck:	8,5 bar
Min. Fülldruck:	2 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,5 m/s

Attention:
The pneumatic spring must only be used with a control valve.

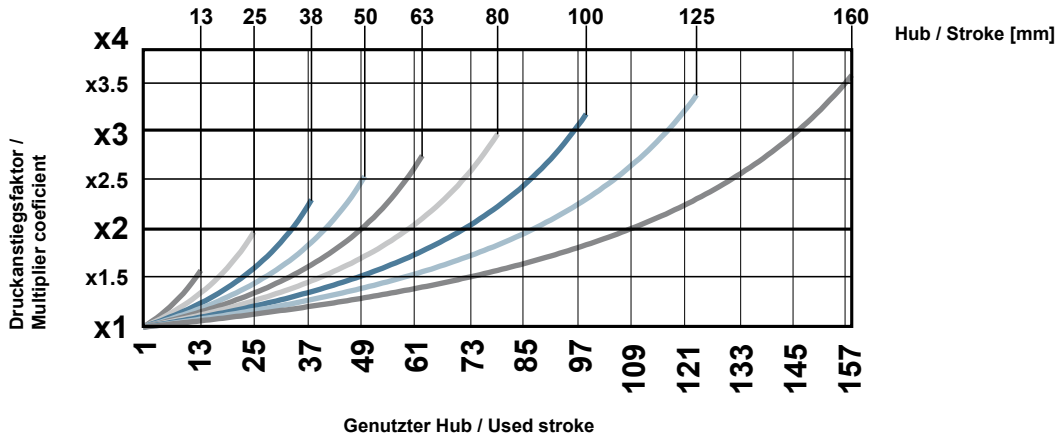
Specifications:

Pressure medium:	Air
Max. charging pressure:	8,5 bar
Min. charging pressure:	2 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,5 m/s

NC.110.02.00150.080



H Hub / Stroke	L ±0,25	LG +0,2	L1	□ B	□ B1
013	153	140	25	190	150
025	177	152	25	190	150
038	203	165	25	190	150
050	227	177	25	190	150
063	253	190	25	190	150
080	287	207	25	190	150
100	327	227	25	190	150
125	377	252	25	190	150
160	447	287	25	190	150



Technische Information:

Das Regulierventil **NCTU.00.35** dient zum Befüllen und Ablassen der Druckluft.
Wird die Pneumatik-Feder an das Druckluftnetz angeschlossen, strömt solange Druckluft in die Feder, bis der Druck dem Netzdruck gleicht. Wird die Pneumatik-Feder vom Druckluftnetz getrennt, öffnet das Regulierventil und die Luft kann aus der Feder entweichen.

Achtung:
Pneumatik-Federn dürfen nie ohne Regulierventil eingesetzt werden.

Technical information:

The control valve **NCTU.00.35** is used for filling and bleeding of air pressure.
If connected, the local air-pressure system fills the pneumatic spring until the pressure is equal on both sides.
If system and spring are separated, the valve opens and the spring does not hold pressure any more.

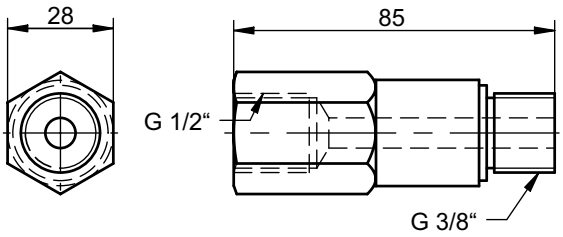
Attention:
The pneumatic spring must only be used with a control valve.

NCTU.00.35

NEU! NEW!

Regulierventil | **Control valve**

NCTU.00.35

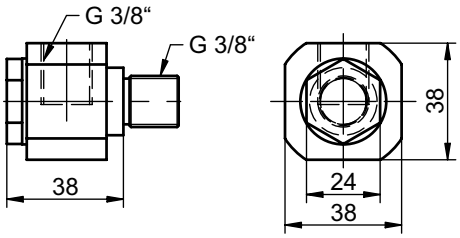


NCTU.00.32

NEU! NEW!

Winkelstück 90° | **Threaded joint, 90°**

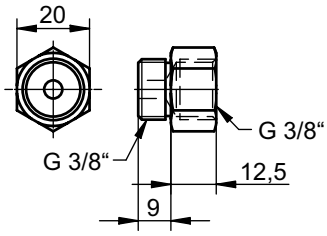
NCTU.00.32



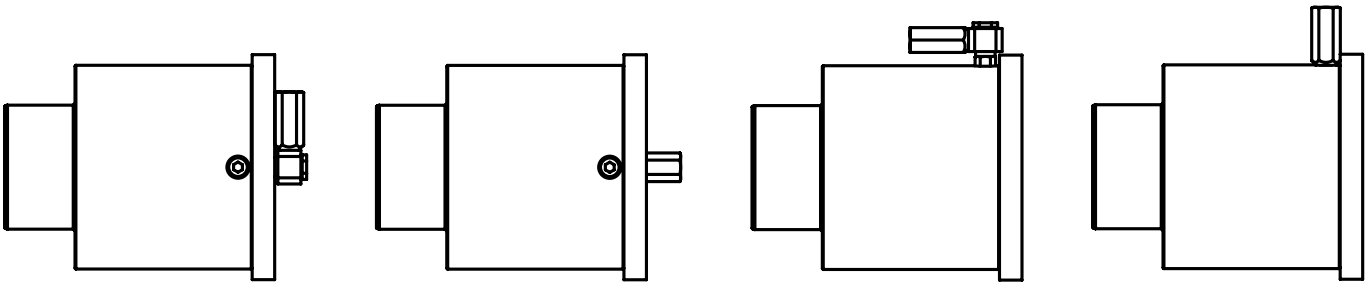
NCTU.00.26

Anschlussstück, gerade | **Straight Fitting**

NCTU.00.26



Anschlussmöglichkeiten / Connection opportunities:



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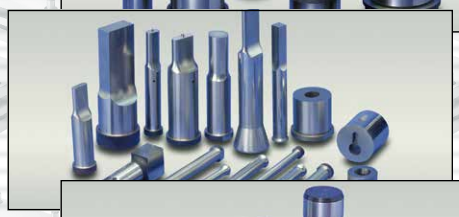

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NCF.1

Teileheber mit Gasdruckfedern für vertikalen Einbau

Technische Daten:

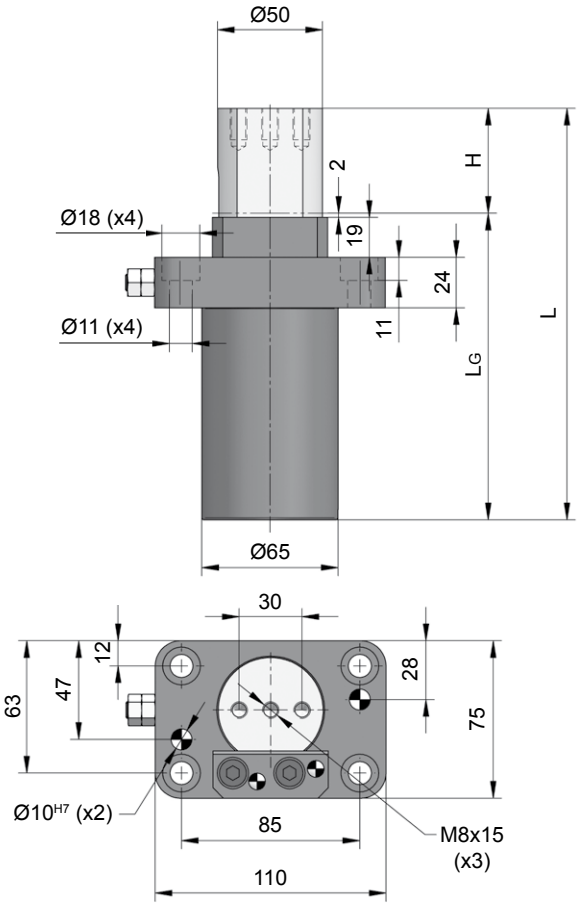
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Stripper with gas springs for vertical mounting

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NCF.1.00050.050



Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Ende / Final [daN] bei Hub / at stroke 050	080	100
NCF.1.00050	Grün / Green	45	50	75	84	93
NCF.1.00100	Blau / Blue	90	100	155	167	178
NCF.1.00150	Rot / Red	135	150	230	241	252
NCF.1.00200	Gelb / Yellow	180	200	305	318	327

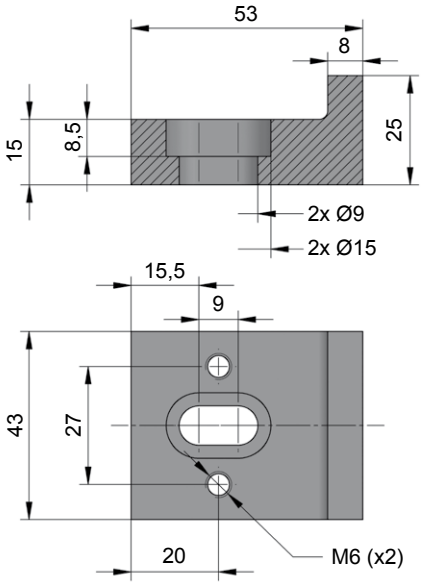
Hub / Stroke	L ±0,25	LG
050	196	146
080	256	176
100	296	196

NC.UEX

Adapter

Cap

NC.UEX



NCF.3

Teileheber mit Gasdruckfeder für vertikalen und horizontalen Einbau

Technische Daten:

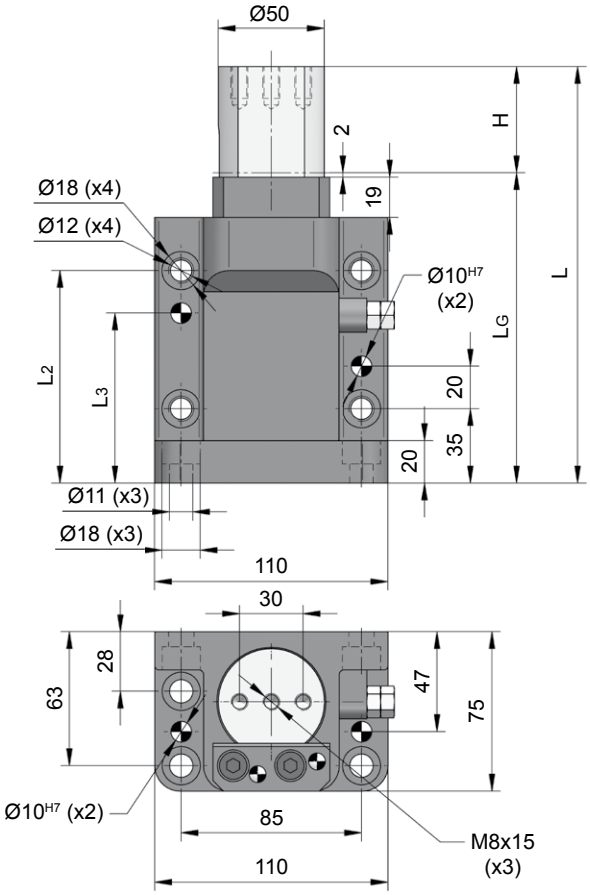
Medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Arbeitstemperatur:	0 - 80 °C
Max. Kolbengeschw.:	1,6 m/s

Stripper with gas springs for vertical and horizontal mounting

Specifications:

Pressure medium:	N_2
$P_{max.}$ (20 °C):	180 bar
$P_{min.}$ (20 °C):	20 bar
Operating temperature:	0 - 80 °C
Max. piston rod speed:	1,6 m/s

NCF.3.00100.080



Type	Farbe / Color	Fülldruck Loading pressure [bar]	Kraft / Force Anfang / Initial [daN]	Ende / Final [daN] bei Hub / at stroke 050	080	100
NCF.3.00050	Grün / Green	45	50	75	84	93
NCF.3.00100	Blau / Blue	90	100	155	167	178
NCF.3.00150	Rot / Red	135	150	230	241	252
NCF.3.00200	Gelb / Yellow	180	200	305	318	327

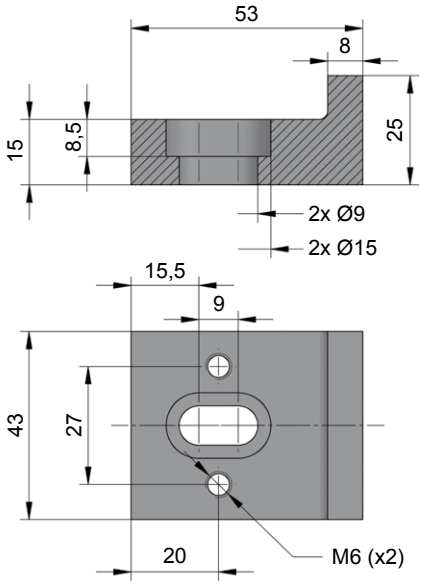
Hub / Stroke	L ±0,25	LG	L2	L3
050	196	146	100	80
080	256	176	130	110
100	296	196	150	130

NC.UEX

Adapter

Cap

NC.UEX



NCP.SPVD

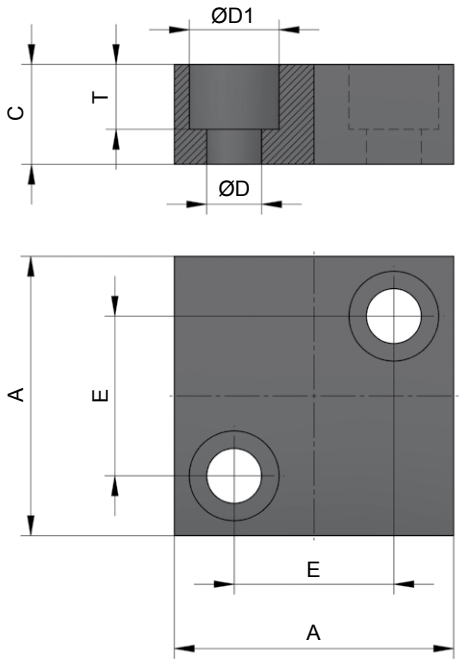
Druckplatten, VDI 3003

Mat.: F 125 / gehärtet

Thrust plates, VDI 3003

Mat.: F 125 / hardened

NCP.SPVD.002



Type	max. Kolbenstangen-Ø max. piston rod-Ø	A	E	C	D	D1	T
NCP.SPVD.001	15	40	24	15	7	11	7
NCP.SPVD.002	50	70	50	15	9	15	9
NCP.SPVD.003	80	90	70	15	9	15	9

NCP.SPFI
NCP.SPPS

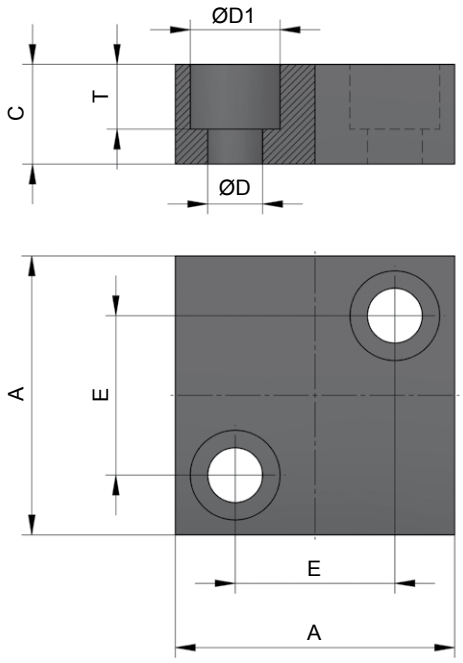
Druckplatten

Mat.: F 125 / gehärtet

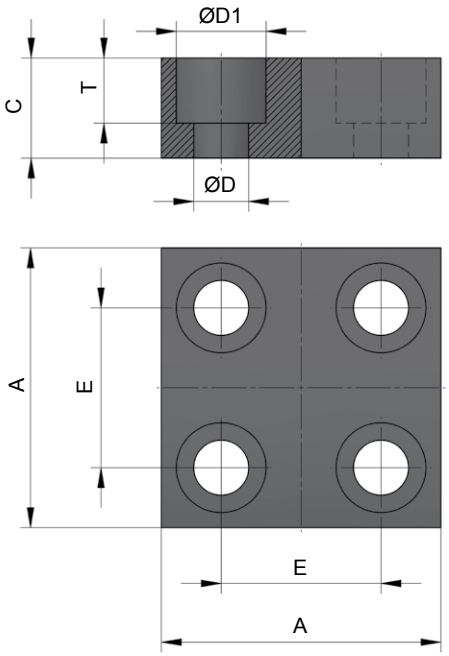
Thrust plates

Mat.: F 125 / hardened

NCP.SPPS.003



NCP SPFI



NCP SPPS

Type	max. Kolbenstangen-Ø max. piston rod-Ø	A	E	C	D	D1	T
NCP.SPFI.001	15	40	21	15	9	15	10
NCP.SPFI.002	25	56	32	20	11	18	13
NCP.SPFI.003	50	71	48	20	11	18	13
NCP.SPFI.004	65	90	67	20	11	18	13
NCP.SPFI.005	95	140	110	20	11	18	13

Type	max. Kolbenstangen-Ø max. piston rod-Ø	A	E	C	D	D1	T
NCP.SPPS.001	15	40	21	15	9	15	10
NCP.SPPS.002	25	56	32	20	11	18	13
NCP.SPPS.003	65	90	67	20	11	18	13
NCP.SPPS.004	95	140	110	20	11	18	13
NCP.SPPS.005	130	155	125	20	11	18	13

Das Verbinden der Gasdruckfedern (GDF) mit Schläuchen zu einem oder mehreren Federsystemen bietet dem Anwender den Vorteil, dass der benötigte Stickstoffdruck im System über außerhalb am Werkzeug oder an der Maschine angebrachte Kontrollarmaturen überwacht werden kann. Im Bedarfsfall kann der Systemdruck durch Befüllen oder Ablassen den Bedürfnissen des Anwenders angepasst werden.
Hinweis: Bei GDF, die im Verbund eingesetzt werden, ist darauf zu achten, dass die Ventile aus den Gasdruckfedern entfernt werden müssen.
Für die Verschlauchung der GDF-Systeme stehen drei unterschiedliche Varianten zur Verfügung:

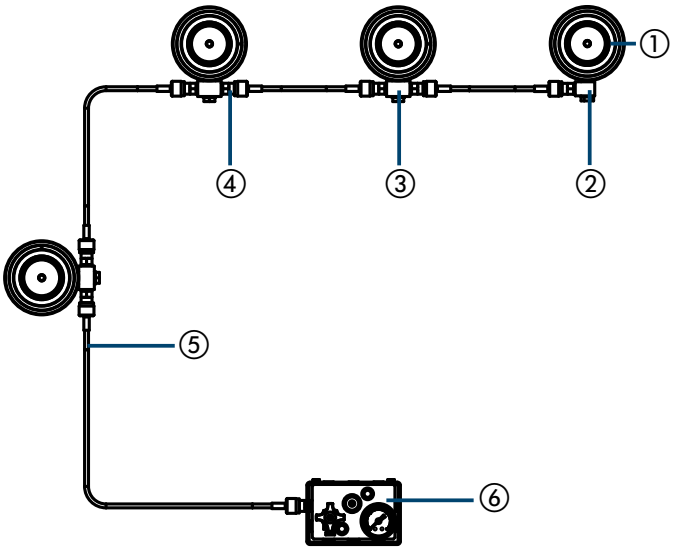
1. Konus-System 37°
   (Seite NC.130.17 - 21)
2. Konus-System 24°
   (Seite NC.130.22 - 23)
3. Messschlauch-System (Einzelverbindungen, nicht für Tank-Zylinder-Verbindungen empfohlen) (Seite NC.130.26)

The hosing of gas springs gives the operator the advantage and the possibility to easily monitor the pressure by externally - to the die or the press - mounted control units.
By simply loading or discharging nitrogen the pressure can be changed to meet the requirements.
Attention: At hosed gas springs the valves have to be taken out first!

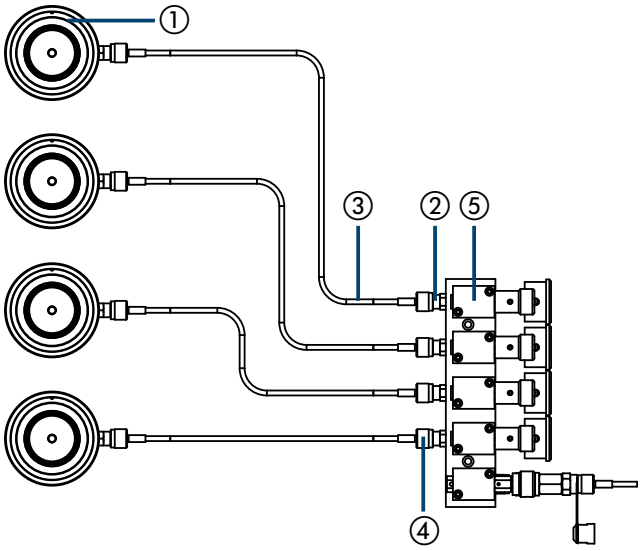
For hosing gas springs, we offer three different systems:

1. System 37º tapered
   (please see pages NC.130.17-21)
2. System 24º tapered
   (please see pages NC.130.22-23)
3. by „measuring hoses“ for single cylinders, not recommended for complete systems
   (please see pages NC.130.26)

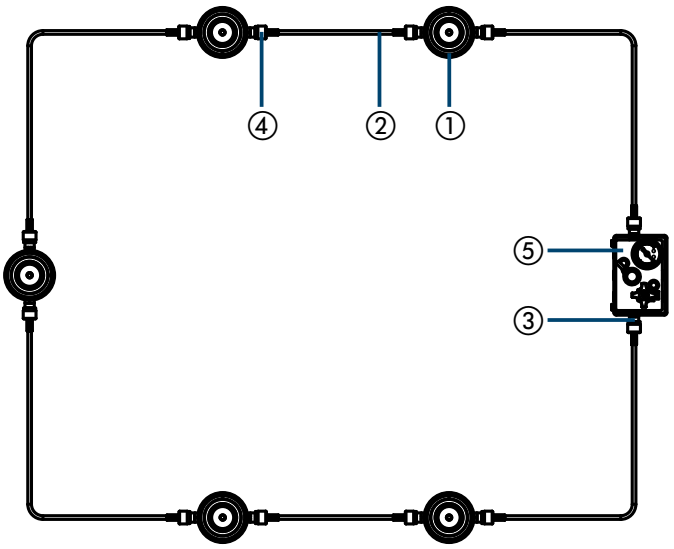
Vorschläge / Proposals:



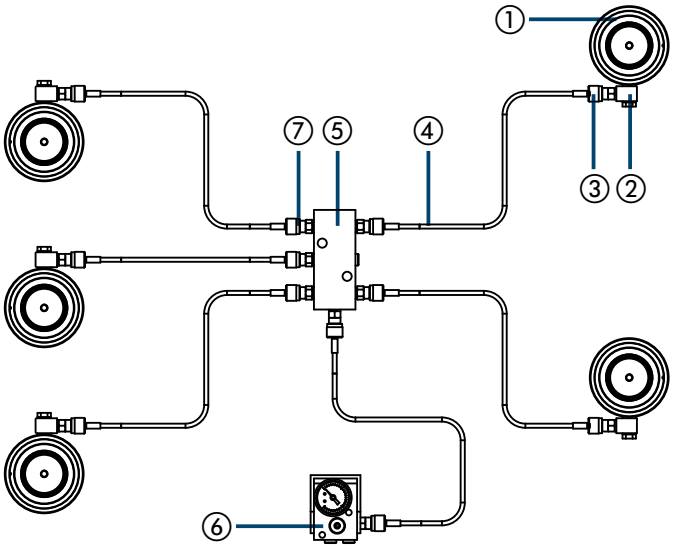
① **NC.060.10.01500.050**
② **HS NF 2000-4-G1/8“**
③ **HS NF 3000-4-G1/8“**
④ **HS NHP 2**
⑤ **HS NH 220**
⑥ **NCCP.1.2**



① **NC.060.10.01500.050**
② **HS NF 1000-4-G1/8“**
③ **HS NH 220**
④ **HS NHP 2**
⑤ **NCCP.7.4**



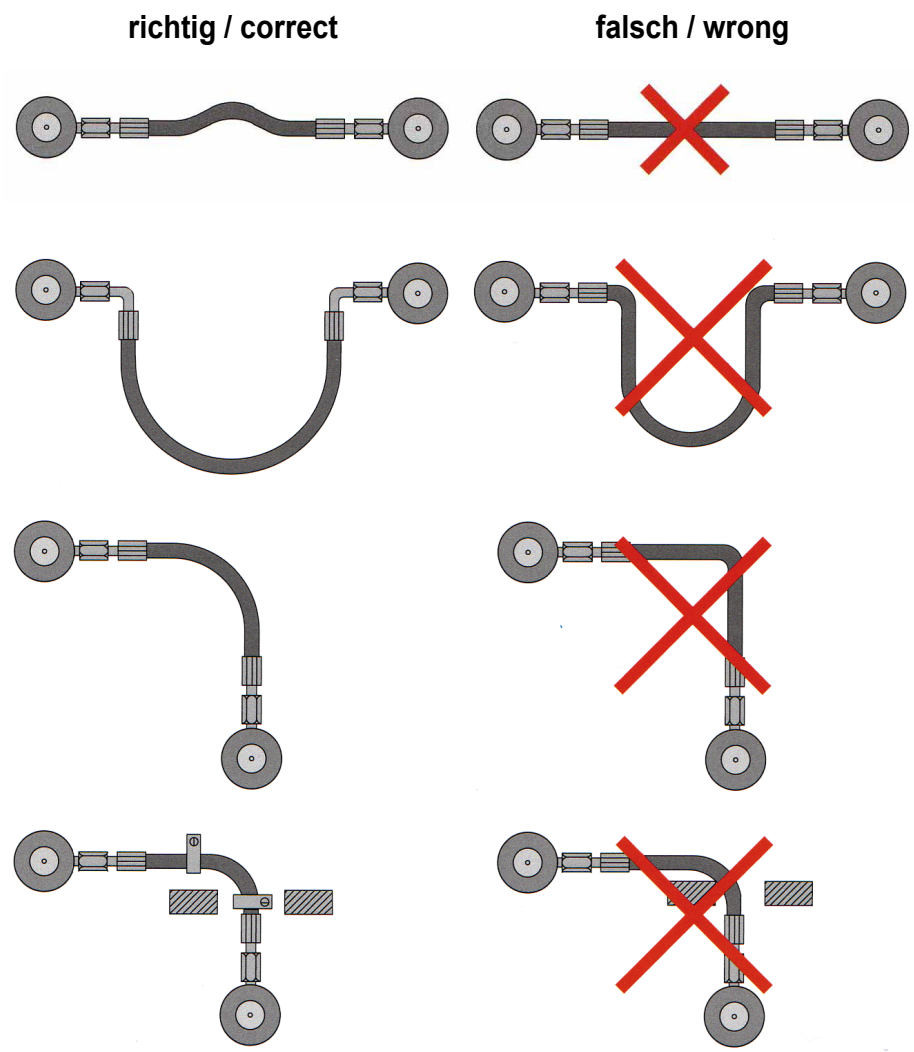
① **NC.060.10.01500.050**
② **HS NH 220**
③ **HS NF 1000-4-G1/8“**
④ **HS NHP 2**
⑤ **NCCC.1.2**



① **NC.060.10.01500.050**
② **NCZ.01**
③ **HS NHP 2**
④ **HS NH 220**
⑤ **NCCC.1.4**
⑥ **NCCC.1.2**
⑦ **HS NF 1000-4-G1/8“**

Die Installation der Schlauchleitungen und die Umgebung in der sie benutzt werden beeinflussen die Lebensdauer einer Schlauchleitung. Die Länge der Schläuche muss so bestimmt werden, dass die Komponenten ohne Spannung verbunden werden können.
Ein wichtiger Faktor für die Lebensdauer des Schlauches ist die Berücksichtigung des Mindestbiegeradius (Biegeradius siehe Schlauchtabelle).
Um Beschädigungen zu vermeiden, sollten die Schläuche zwischen den zu verbindenden Elementen auch mit Schlauchschellen befestigt werden.
Achtung: Schläuche bei der Montage nicht verdrehen.

The proper hosing and mounting of hosed systems as well as the (clean) environment and surrounding they are being run in, do affect their lifetime significantly.
By calculating the hose lengths, please make sure, the hoses are long enough, that no component has to work under tension.
Another important factor is the minimal bending radius (please see hose-table).
To avoid damaging, please fix hoses with hose clips between gas springs.
Do not twist hoses!



NCCP.1.2

Lieferumfang:
1 Stück Kontrollarmatur **NCCP.1.2**
10 Stück Verschlussstopf. **NCR.99.039**

Achtung: Die Kontrollarmatur **NCCP.1.2** kann auch mit den Anschlussstücken geliefert werden (siehe Seiten NC.130.17, 22 und 26).
Bitte bei Bestellung angeben.

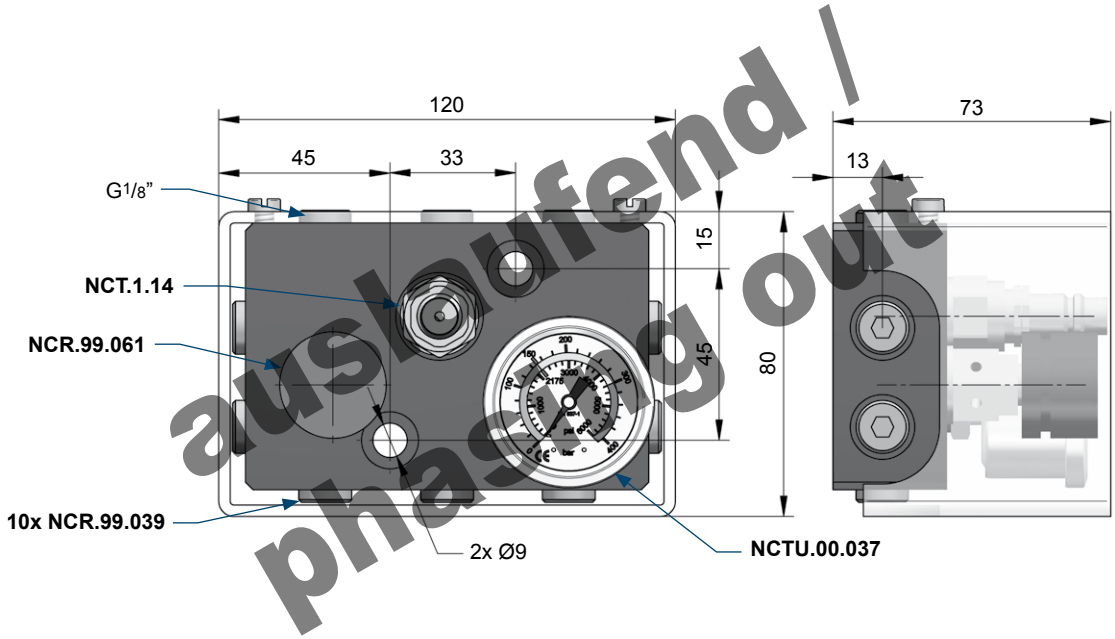
Optional: NCCP.1.2 kann mit Berstscheibe **NCR.99.139** bestückt werden.

Alternatively, the control-panel **NCCP.1.2** can be supplied with the fittings **HS NF …** (Please see pages NC.130.17, 22 and 26).
Please specify when ordering.

Optional: It's possible to fit **NCCP.1.2** with rupture disk **NCR.99.139**.

NCCP.1.2

Included are
1 x control panel **NCCP.1.2**
10 x plug **NCR.99.039**



NCCP.1.1

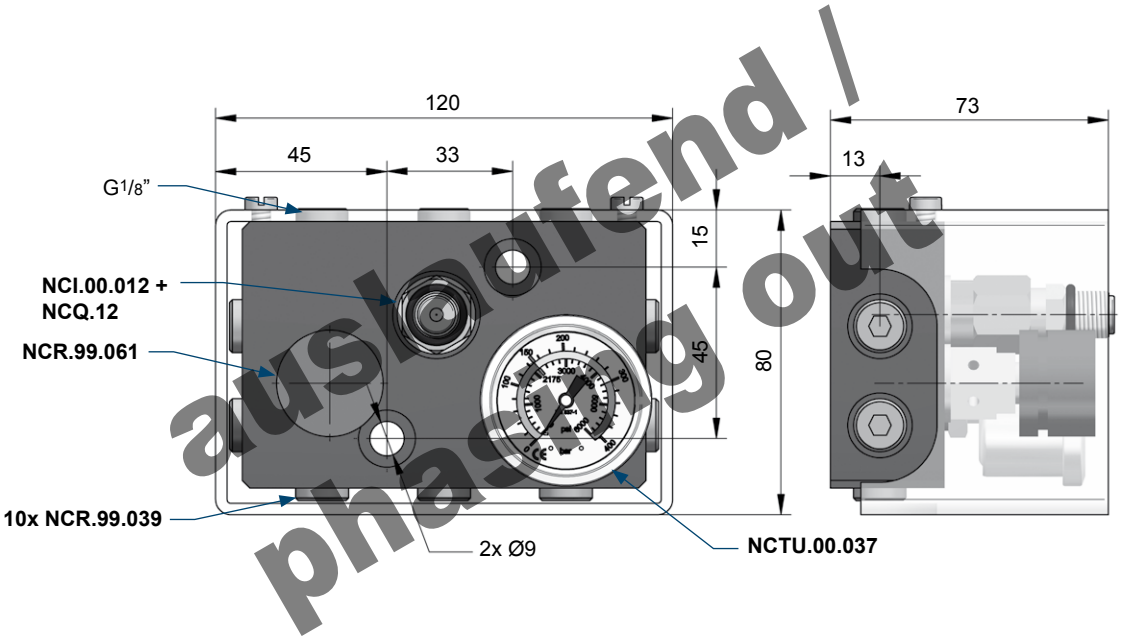
Lieferumfang:
1 Stück Kontrollarmatur **NCCP.1.1**
10 Stück Verschlussstopf. **NCR.99.039**

Optional: NCCP.1.1 kann mit Berstscheibe **NCR.99.139** bestückt werden.

Included are
1 x control panel **NCCP.1.1**
10 x plug **NCR.99.039**

Optional: It's possible to fit **NCCP.1.1** with rupture disk **NCR.99.139**.

NCCP.1.1



NCCP.600.2
NCCP.600.2.1
NCCP.600.2.2

Kontrollarmaturen

NCCP.600.2 = ohne Berstscheibe
NCCP.600.2.1 = mit Berstscheibe **NCR.99.139** (360 bar)
NCCP.600.2.2 = mit Berstscheibe **NCR.99.140** (517 bar)

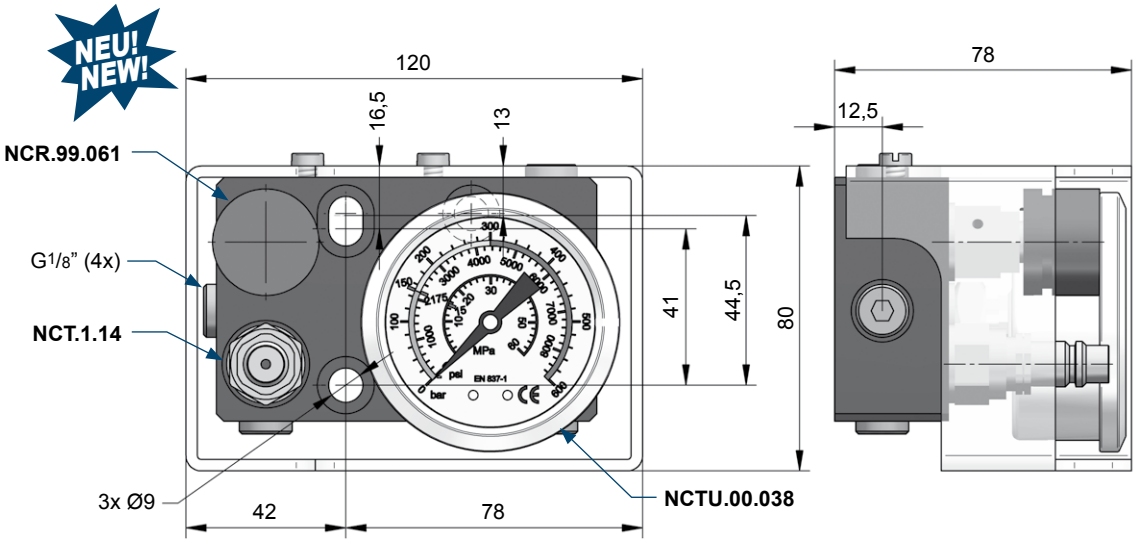
Berstscheiben siehe Seite NC.130.25.

Control-panels

NCCP.600.2 = without rupture disk
NCCP.600.2.1 = with rupture disk **NCR.99.139** (360 bar)
NCCP.600.2.2 = with rupture disk **NCR.99.140** (517 bar)

Rupture disks see page NC.130.25.

NCCP.600.2



NCCP.7.4

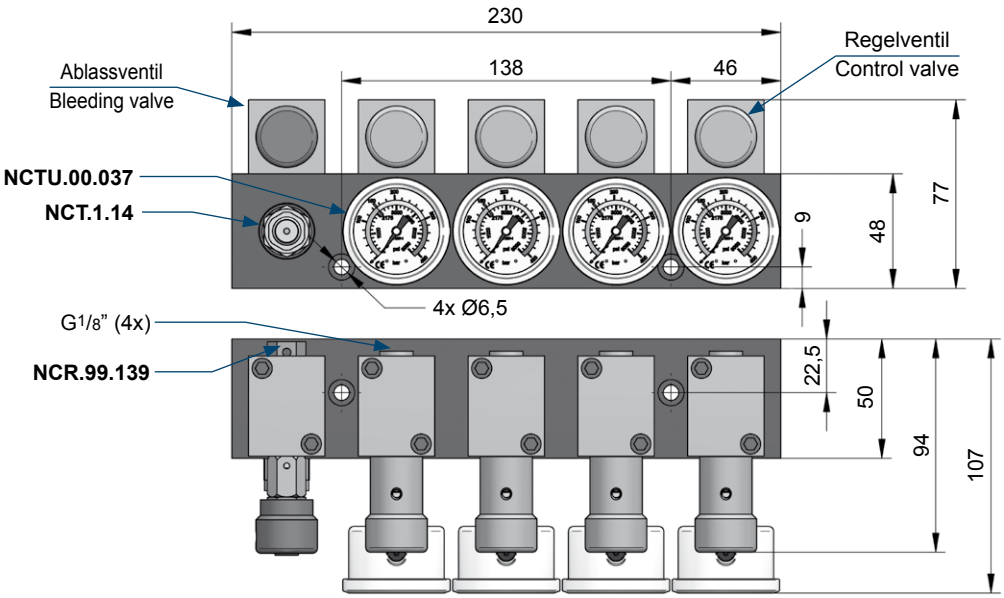
Multi-Kontrollarmaturen

Hinweis:
Die Multi-Kontrollarmatur kommt zum Einsatz, wenn GDF oder GDF-Gruppen mit unterschiedlichen Fülldrücken benötigt werden.
Über das Einlassventil/Stecknippel können die Federn/Gruppen mit Stickstoff befüllt werden.

Multi-control-units

Note:
In case gas springs or - groups need to show different pressures, this multi-control-unit is used.
The springs and systems are charged through the filling valves.

NCCP.7.4



HS Z 20

Information:
Wird der Druckwächter direkt in eine Kontrollarmatur eingeschraubt benötigten Sie den Adapter **NCQ.11**.

Druckwächter werden im Druckbereich von 40 - 240 bar zur Überwachung des Systemdrucks eingesetzt. Bei Druckabfall wird bei Elektroanschluss die Maschine gestoppt. Bei Stickstoffverlust kann auch über optische oder akustische Signale gewarnt werden.

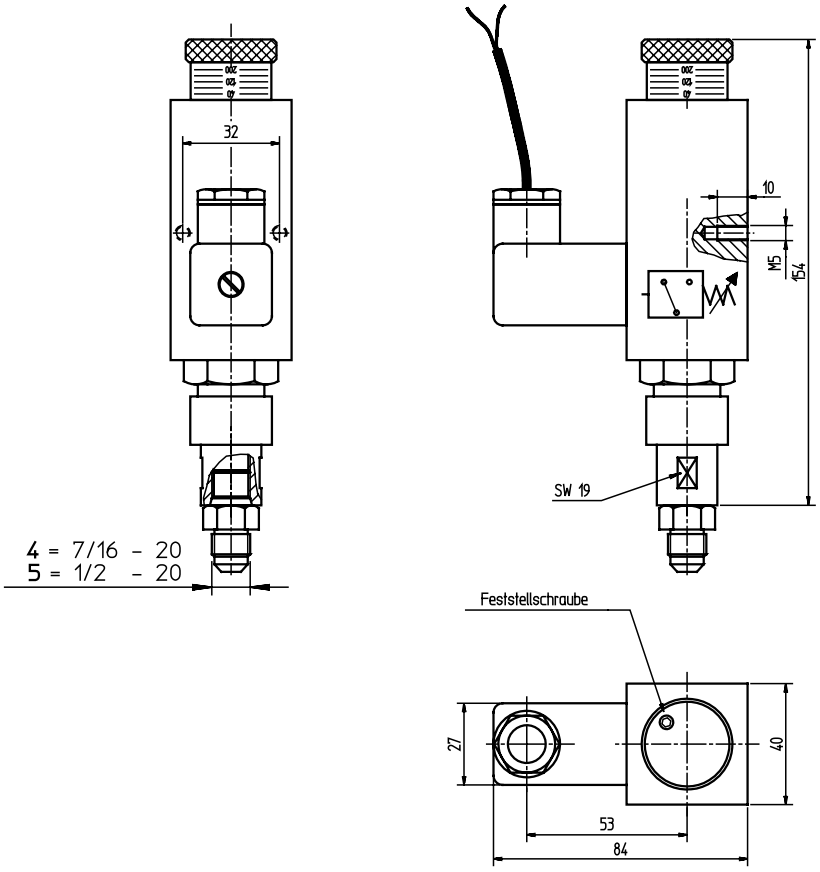
Bei der Bestellnummer ergänzen:
4 = Anschluss 7/16 - 20
5 = Anschluss 1/2 - 20

Information:
In case the pressure monitor is used in connection with a control panel, the Adapter **HS Z20-5-NCQ.11** is needed.

These units are being used to monitor the system-pressure (between 40 and 240 bars). In cases of a pressure decrease optical / accustical warnings can be initiated or the press can even be stopped.

HS Z 20 - 4

When ordering, please specify:
4 = Connection-thread 7/16 - 20
5 = Connection-thread 1/2 - 20



NCCC.1.2

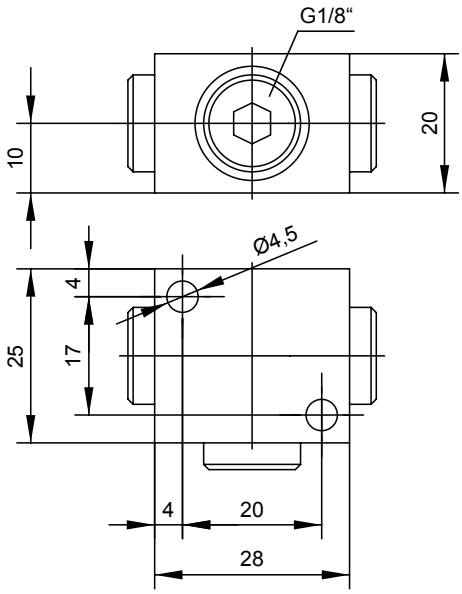
Verteilerblocks

Achtung:
Benötigte Anschlussstücke siehe Seiten NC.130.16 und 21

Distribution Blocks

Attention:
For fitting connectors please see pages NC.130.16 und 21

NCCC.1.2



NCCC.1.4

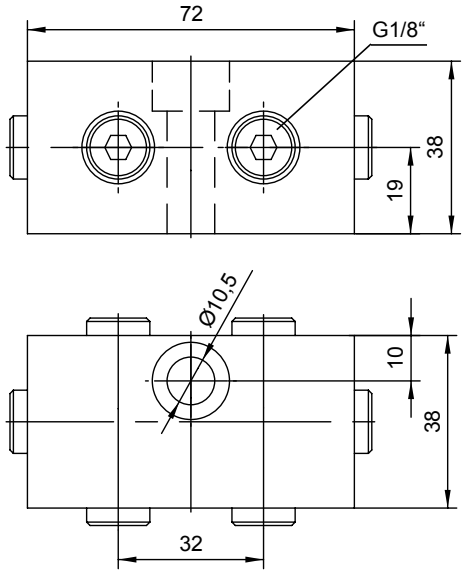
Verteilerblocks

Achtung:
Benötigte Anschlussstücke siehe Seiten NC.130.16 und 21

Distribution Blocks

Attention:
For fitting connectors please see pages NC.130.16 und 21

NCCC.1.4



NCCC.6.6

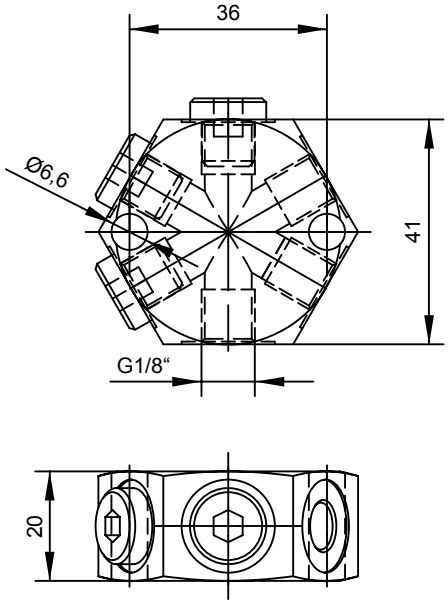
Verteilerblocks

Achtung:
Benötigte Anschlussstücke siehe Seiten NC.130.16 und 21

Distribution Blocks

Attention:
For fitting connectors please see pages NC.130.16 und 21

NCCC.6.6



NCCC.1.7

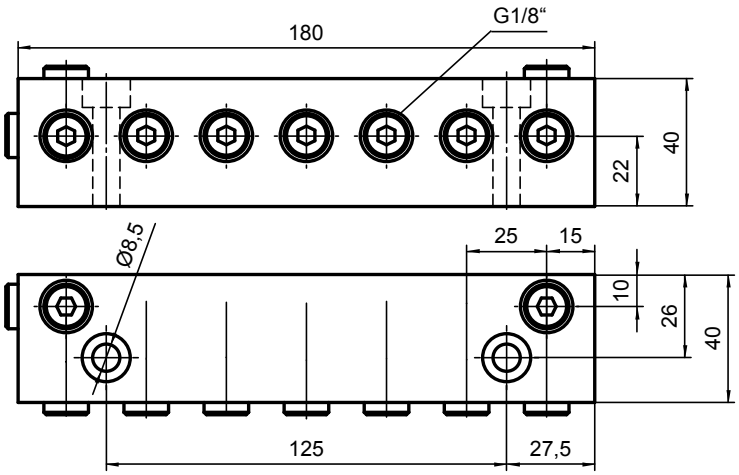
Verteilerleisten

Achtung:
Benötigte Anschlussstücke siehe Seiten NC.130.16 und 21

Distribution Blocks

Attention:
For fitting connectors please see pages NC.130.16 und 21

NCCC.1.7



NCCC.1.10.01

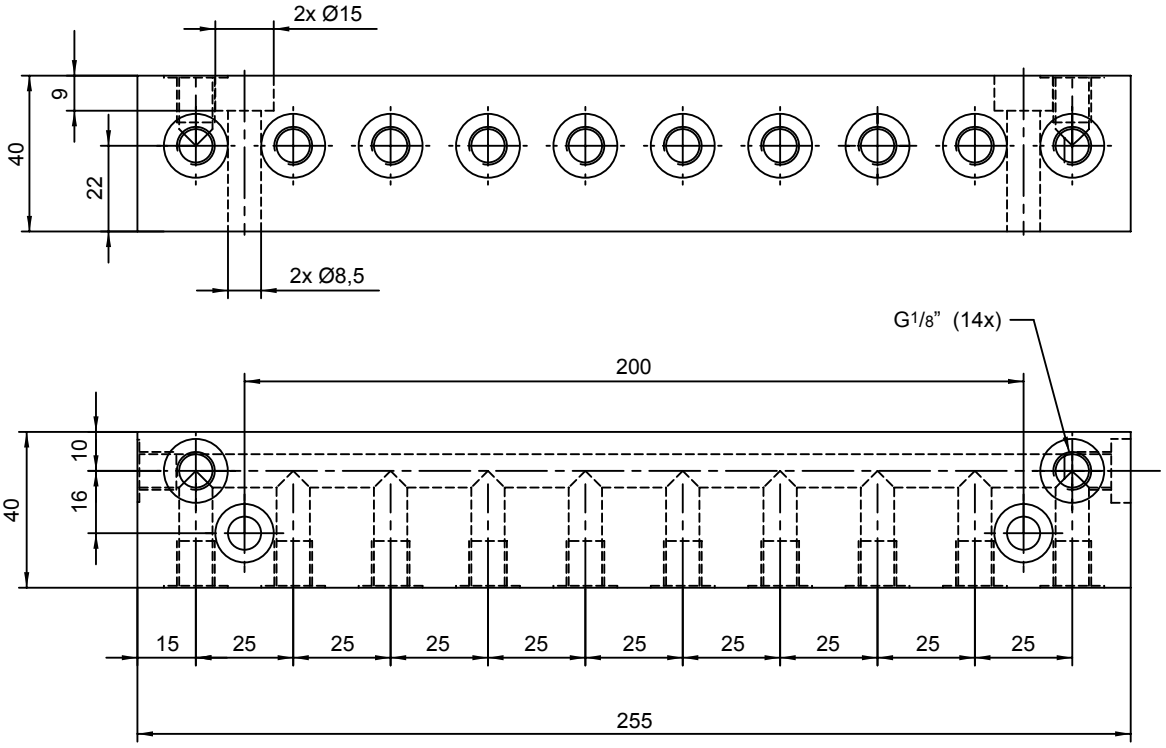
Verteilerleisten

Achtung:
Benötigte Anschlussstücke siehe Seiten NC.130.16 und 21

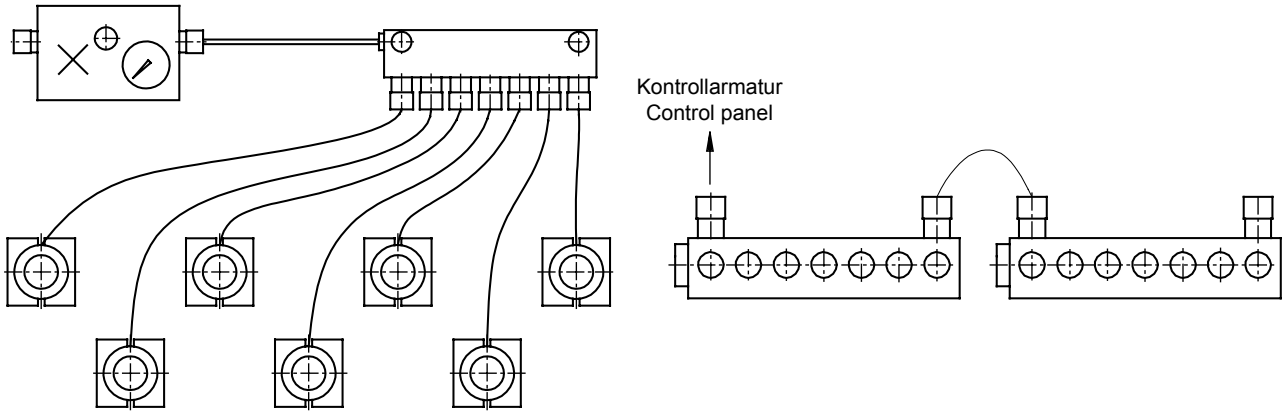
Distribution Blocks

Attention:
For fitting connectors please see pages NC.130.16 und 21

NCCC.1.10.01



Beispiel / Example



NCQ

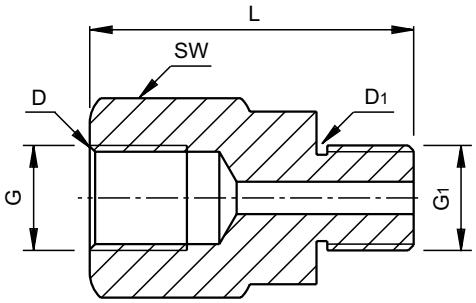
Ladeadapter

Dichtung Typ P: flach
Dichtung Typ T: O-Ring

Charging adapter

Seal Type P: flat
Seal Type T: O-ring

NCQ.11



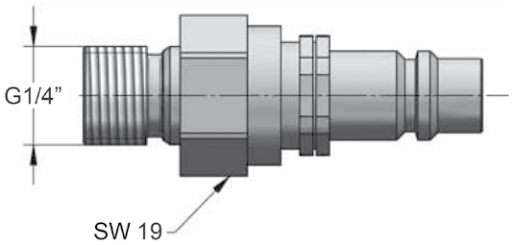
Type	D	G	G1	D1	SW	L
02	T	1/2“-20	M6-kurz / short	P	18	35
11	T	1/2“-20	G1/8“	P	16	30
19	T	7/16“-20	M6-lang / long	T-T	19	34
20	P	G1/8“	G1/8“	P	16	25
22	P	G1/8“	M6-lang / long	T-T	16	34
26	P	G1/8“	G1/8“	P	17	20
32	P	G1/8“	M6-lang / long	P	13	28
34	P	1/2“-20	M6-lang / long	T-T	19	34
35	P	1/2“-20	G1/8“	P	19	30

NCT.1.14

Stecknippel

Male quick release couplings

NCT.1.14

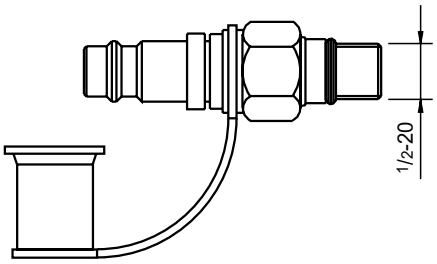


HS 11-700-8555

Stecknippel
(HS NDZ-22)

Male quick release coupling
(HS NDZ-22)

HS 11-700-8555

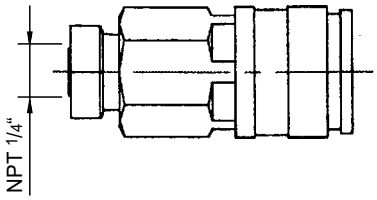


HS 11-770-2700

Steckkupplungen
(HS NDZ-21A)

Female quick release coupling
(HS NDZ-21A)

HS 11-770-2700

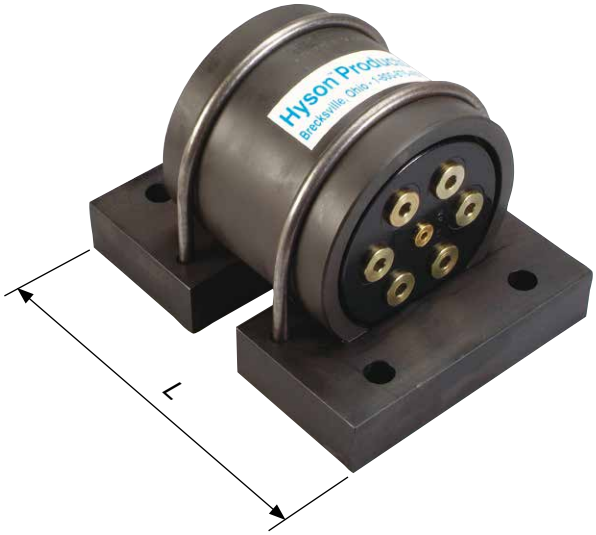


HS ST

HS ST-Speichertanks werden in 7 Größen gefertigt und haben an den Flächen Anschlussgewinde für Hochdruckschläuche sowie eine Berstscheibe.
Der Tank ist gefertigt für einen Systemdruck von 150 bar.

The **HS ST** - compression tanks are offered in 7 sizes. They provide connection-threads for high pressure hoses as well as a rupture disk and are designed for 150 bar.

HS ST-320-HP



Type	V [cm³]	L	Anschlüsse Connections
50-HP	817,4	244,1	6 x 3/4-16 1 x 7/16-20 1 x 7/16-14
100-HP	1638,9	310,6	
160-HP	2622,4	390,1	
200-HP	3281,4	443,5	
320-HP	5240,8	602,7	
460-HP	7541,1	788,9	
730-HP	11946,2	1149,4	

NC Hinweisschild

NC Hinweisschild / D

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße 17 • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

ACHTUNG

Werkzeug/Presse ist mit Gasdruckfedern bestückt.

Fülldruck max. 150 bar - 180 bar - 200 bar

Achtung:
Arbeiten am System nur im drucklosen Zustand.
Bitte Wartungsanleitung lesen.

Druck max. ..... bar Arbeitsdruck ..... bar

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße 17 • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

Attention

This die / this press utilizes nitrogen gas springs with high pressure (150 bar - 180 bar - 200 bar) and the resulting very high forces.

Repair and maintenance must only take place after the unit(s) have been unloaded and unpressured!

Pressure max. ..... bar Working pressure ..... bar

HS NCA 3000

Abfüllarmaturen

Charging assembly

HS NCA 3000

HS NCCS

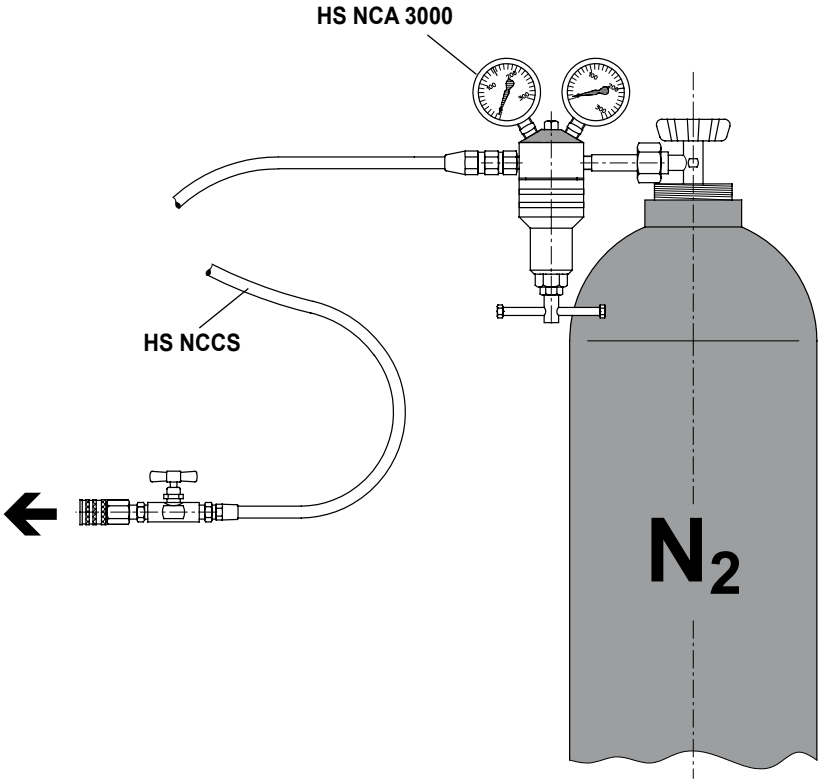
Ladeschläuche

Standardlänge: 3000 mm

Filling hose

Standard length: 3000 mm

HS NCCS



NCCA.1.1

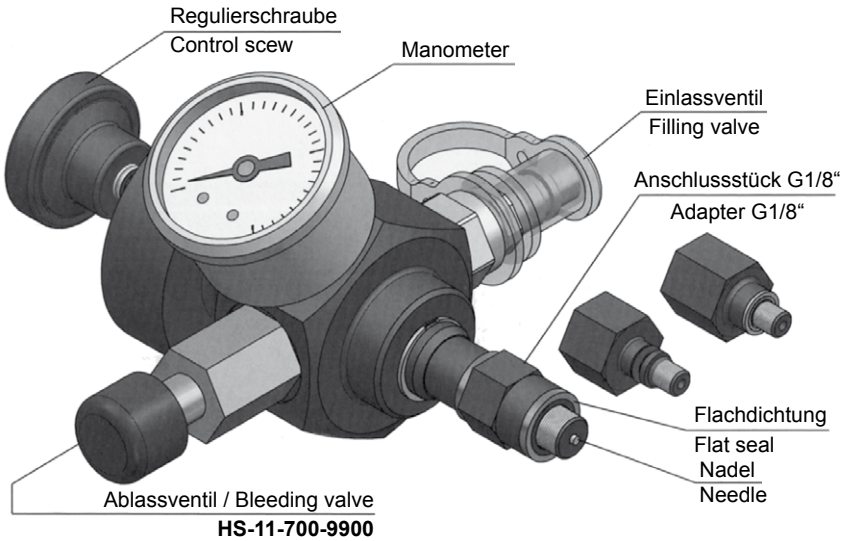
Kontroll- und Ladearmatur zur Druckkontrolle von Stickstoff-Zylindern.
Über das Einlassventil der Armatur kann der Druck erhöht werden.
Über das Ablassventil kann der Druck reduziert oder der Zylinder in einen drucklosen Zustand versetzt werden.

Lieferumfang:
1 x Kontroll-Ladearmatur **NCCA.1.1**
1 x Adapter **NCQ.32** M6-kurz
1 x Adapter **NCQ.22** M6-lang
1 x Adapter **NCQ.39** M8

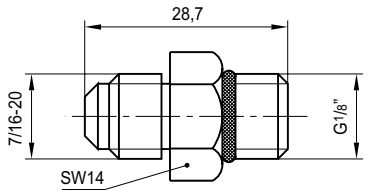
Pressure control unit for pressure monitoring of gas springs.
The filling valve is used to charging the spring and increasing its pressure, while the bleeding valve reduces the load, possibly even down to 1 bar only.

Included are
1 x pressure control unit **NCAA.1.1**
1 x adapter **NCQ.32** M6-short
1 x adapter **NCQ.22** M6-long
1 x adapter **NCQ.39** M8

NCCA.1.1

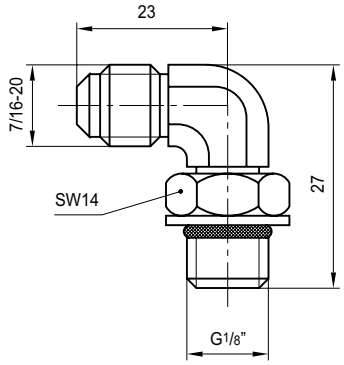


Anschlussstücke, gerade / Straight Fitting



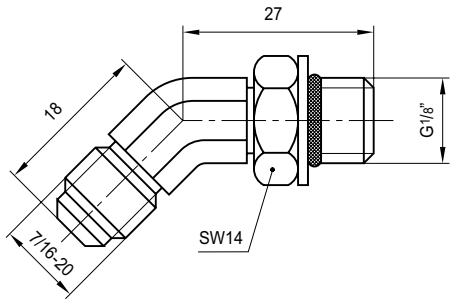
HS NF 1000-4-G1/8”

Winkelstücke 90° / Threaded joint, 90°



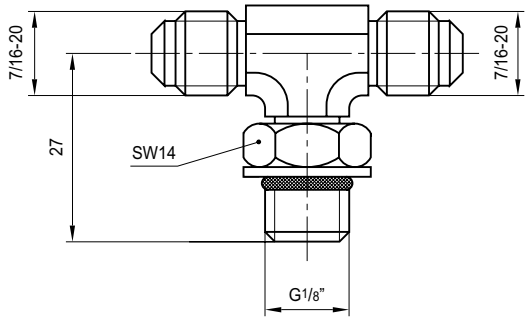
HS NF 2000-4-G1/8”

Winkelstücke 45° / Threaded joint, 45°



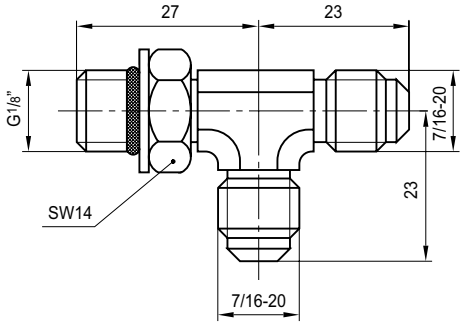
HS NF 4500-4-G1/8”

T-Stücke / T-Connector



HS NF 3000-4-G1/8”

L-Stücke / L-Connector

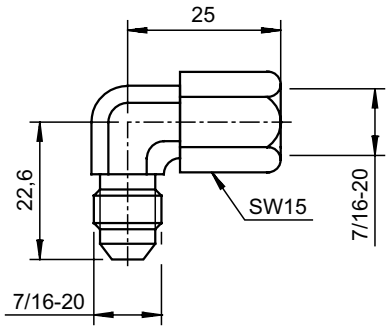


HS NF 3300-4-G1/8”

GDF mit M6 Anschlussgewinde können in Kombination mit dem Adapter **NCQ.21** im Verbund verschlaucht werden.
Wenn eine Verschlauchung mit Hilfe der Messschläuche **NCX.12/13/15** notwendig ist (möglich, aber bei Alternativen weniger empfehlenswert), benötigt man zusätzlich die Anschlussstücke **NCI.00.012**.

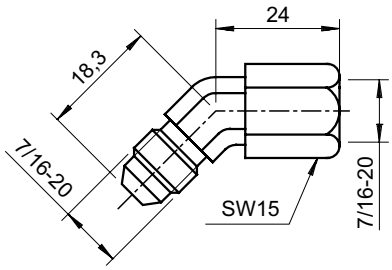
All gas springs having a M6 connection-thread can be hosed together by utilizing the **NCQ.21** - adapter.
If a hosing - system using the smaller hoses **NCX.12/13/15 …** is required (not recommended as first choice !), in addition to these **NCQ.21** - adapters **NCI.00.012** are needed.

Winkelstücke 90° mit Überwurfmutter /
Threaded joint, 90°, with connecting nut



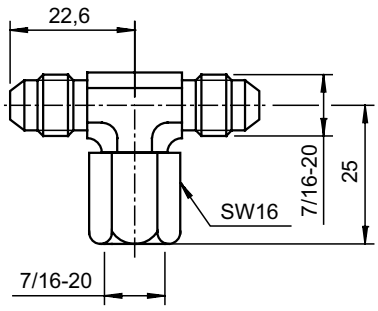
HS NF 2000-4

Winkelstücke 45° mit Überwurfmutter /
Threaded joint, 45°, with connecting nut



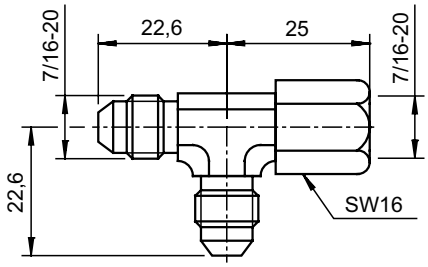
HS NF 4500-4

T-Stücke mit Überwurfmutter /
T-Connector with connecting nut



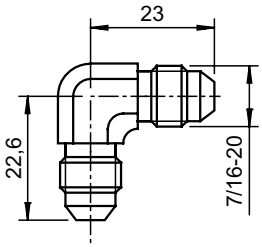
HS NF 3000-4

L-Stücke mit Überwurfmutter /
L-Connector with connecting nut



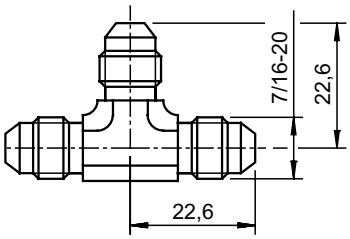
HS NF 3300-4

Winkelstücke 90° / Threaded joint, 90°



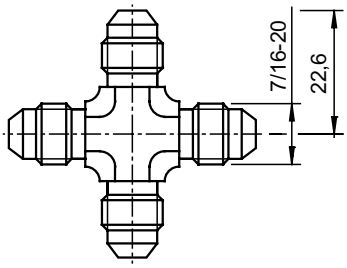
HS NF 2500-4

T-Anschlussstücke / T-Coupling



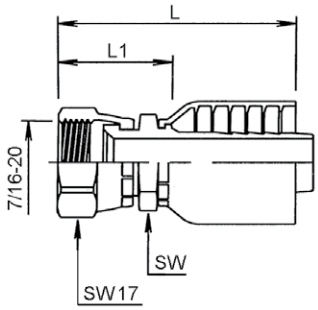
HS NF 3500-4

Anschlussstücke Kreuz / Adapter cross



HS NF 5500-4

Pressarmaturen, gerade / Crimping fittings, straight

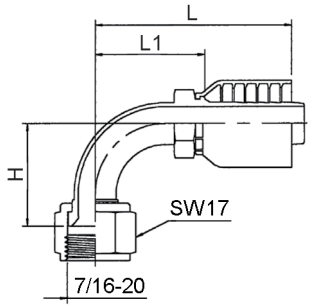


Type	L	L1	SW
HS NHP 2*	36	19	12
HS NHP 3	52	29	14

* = für / for **HS NH 220**

HS NHP 3

Pressarmaturen 90° / Crimping fittings, 90°

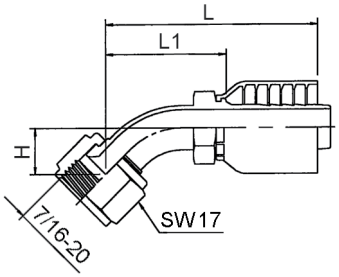


Type	L	L1	H
HS NHP 2-90*	44	26	21
HS NHP 3-90	48	24	21

* = für / for **HS NH 220**

HS NHP 3-90

Pressarmaturen 45° / Crimping fittings, 45°

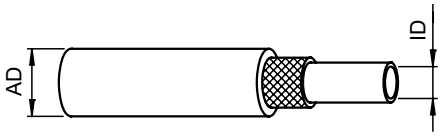


Type	L	L1	H
HS NHP 2-45*	49	32	10
HS NHP 3-45	53	29	10

* = für / for **HS NH 220**

HS NHP 3-45

Hochdruckschläuche (Pressschläuche) / High pressure hose, flexible



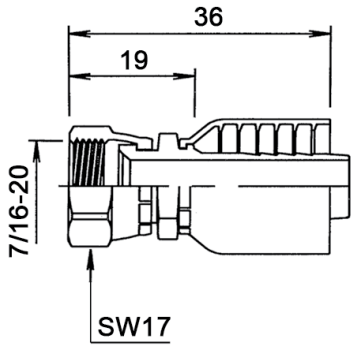
Type	AD	ID	R*
HS NH 220	10,8	4,8	38
HS NH 200	13,4	6,3	80

*R = Biegeradius / Bending radius

HS NH 220

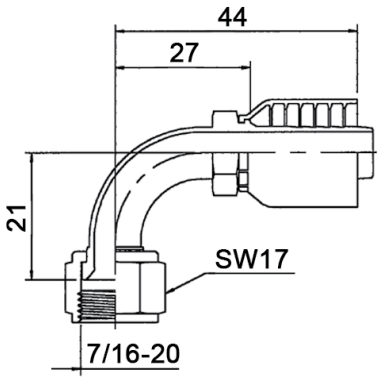
Hochdruckschläuche komplett mit Pressarmaturen nach Kundenangaben (HS NH 220) /
High pressure hose, complete with pressed-on adapters as per customers' specifications (HS NH 220)

Pressarmaturen, gerade /
Crimping fittings, straight



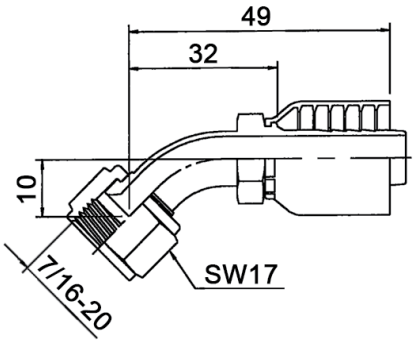
HS NHP 2

Pressarmaturen 90° /
Crimping fittings, 90°



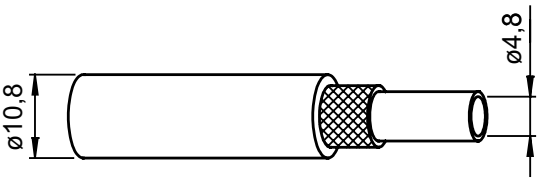
HS NHP 2-90

Pressarmaturen 45° /
Crimping fittings, 45°



HS NHP 2-45

Hochdruckschläuche (Pressschläuche) /
High pressure hose, flexible



Biegeradius / Bending radius = 38 mm

HS NH 220

Bitte bei Bestellung angeben:

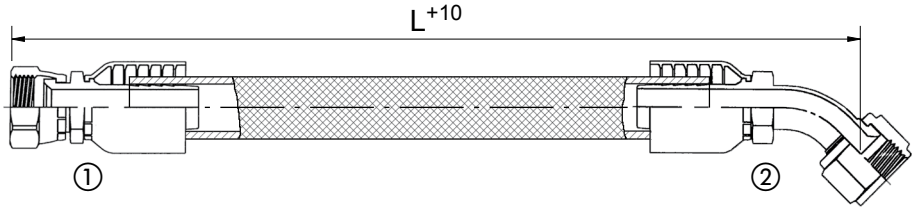
L = Gesamtlänge [mm]
L_{min} = 200 mm
① = Typ Armatur 1
② = Typ Armatur 2
α = Lage der Anschlüsse bei abgewinkelten Armaturen

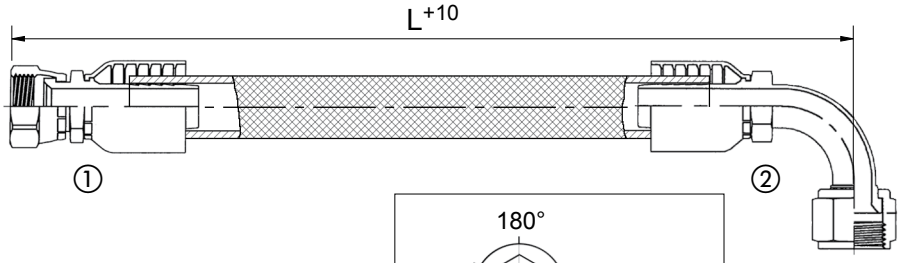
Hinweis:
Bei der Festlegung der Gesamtlänge müssen die Verlegehinweise von Seite NC.130.4 beachtet werden!

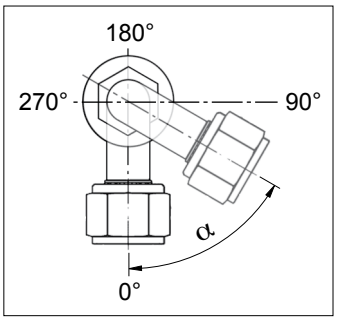
Please specify when ordering:

L = Total length [mm]
L_{min} = 200 mm
① = Type fitting 1
② = Type fitting 2
α = When using angled fittings: degrees of angle

In order to calculate the exact hose-lengths, please follow the instructions on page NC.130.4.



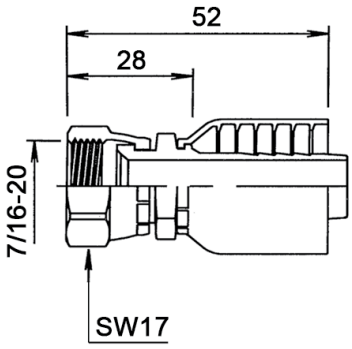




HS NH 220 / 380 / HS NHP 2-45 / HS NHP 2-90 / 60°

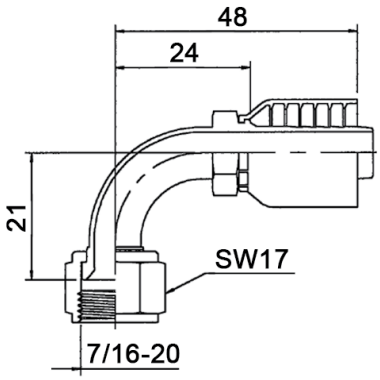
Hochdruckschläuche komplett mit Pressarmaturen nach Kundenangaben (HS NH 200) /
High pressure hose, complete with pressed-on adapters as per customers' specifications (HS NH 200)

Pressarmaturen, gerade /
Crimping fittings, straight



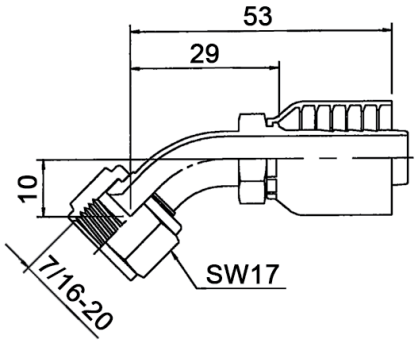
HS NHP 3

Pressarmaturen 90° /
Crimping fittings, 90°



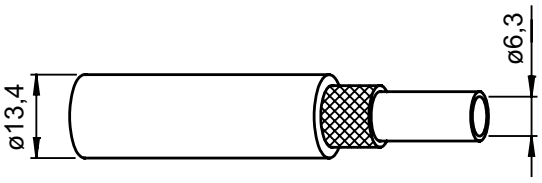
HS NHP 3-90

Pressarmaturen 45° /
Crimping fittings, 45°



HS NHP 3-45

Hochdruckschläuche (Pressschläuche) /
High pressure hose, flexible



Biegeradius / Bending radius = 80 mm

HS NH 200

Bitte bei Bestellung angeben:

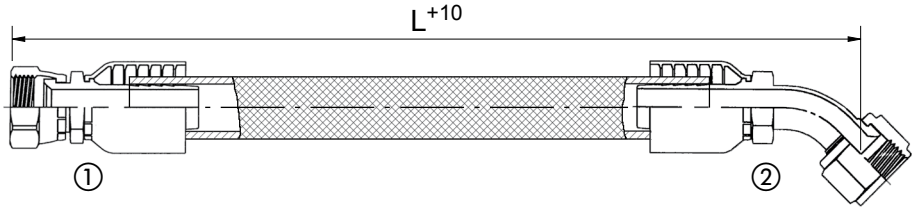
L = Gesamtlänge [mm]
L_{min} = 200 mm
① = Typ Armatur 1
② = Typ Armatur 2
α = Lage der Anschlüsse bei abgewinkelten Armaturen

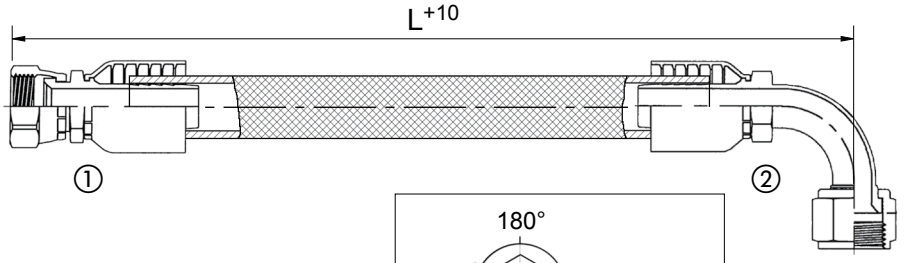
Hinweis:
Bei der Festlegung der Gesamtlänge müssen die Verlegehinweise von Seite NC.130.4 beachtet werden!

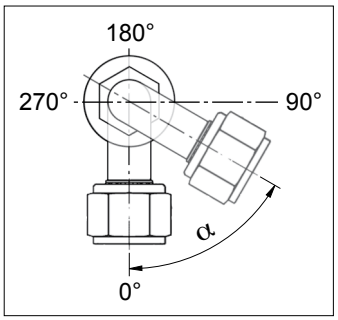
Please specify when ordering:

L = Total length [mm]
L_{min} = 200 mm
① = Type fitting 1
② = Type fitting 2
α = When using angled fittings: degrees of angle

In order to calculate the exact hose-lengths, please follow the instructions on page NC.130.4.

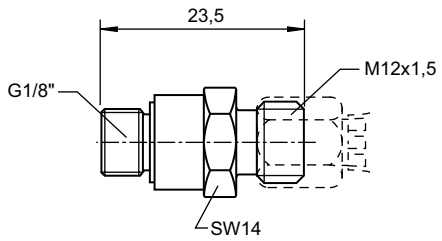






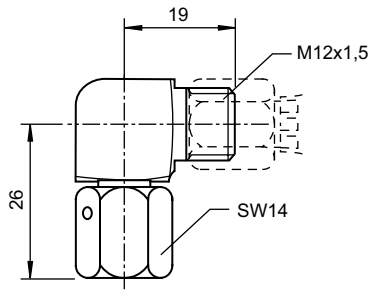
HS NH 200 / 540 / HS NHP 3 / HS NHP 3-90 / 45°

Anschlussstücke, gerade / Straight Fitting



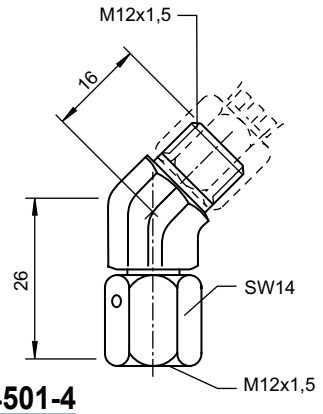
HS NF 1001-4-G1/8

Winkelstücke 90° / Threaded joint, 90°



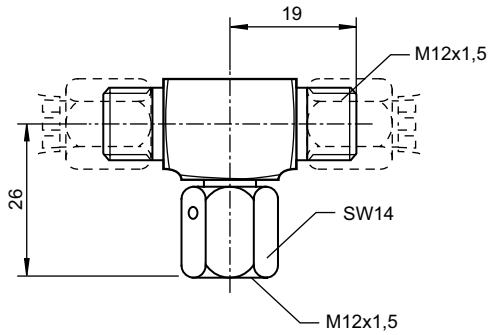
HS NF 2001-4

Winkelstücke 45° / Threaded joint, 45°



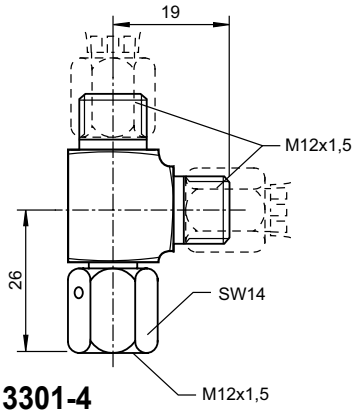
HS NF 4501-4

T-Anschlussstücke / T-Connector



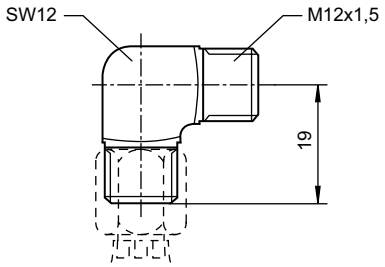
HS NF 3001-4

L-Anschlussstücke / L-Connector



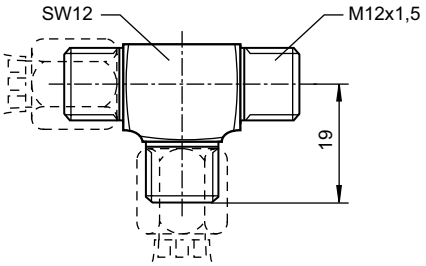
HS NF 3301-4

Winkelstücke 90° / Threaded joint, 90°



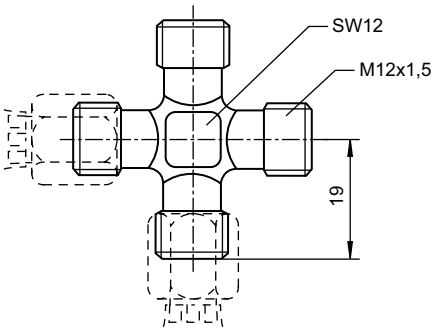
HS NF 2501-4

T-Anschlussstücke / T-Connector



HS NF 3501-4

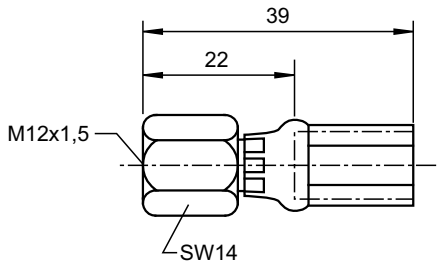
Anschlussstücke, Kreuz / Adapter cross



HS NF 5501-4

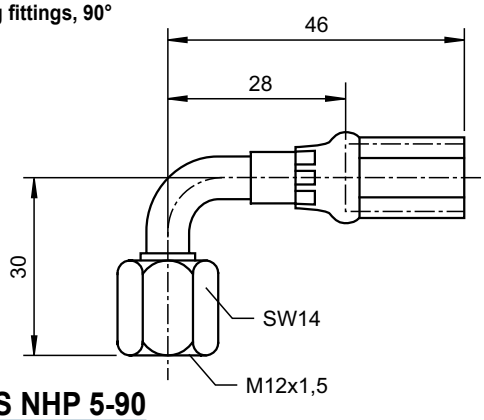
Hochdruckschläuche komplett mit Pressarmaturen nach Kundenangaben (HS NH 220) /
High pressure hose, complete with pressed-on adapters as per customers' specifications (HS NH 220)

Pressarmaturen, gerade /
Crimping fittings, straight



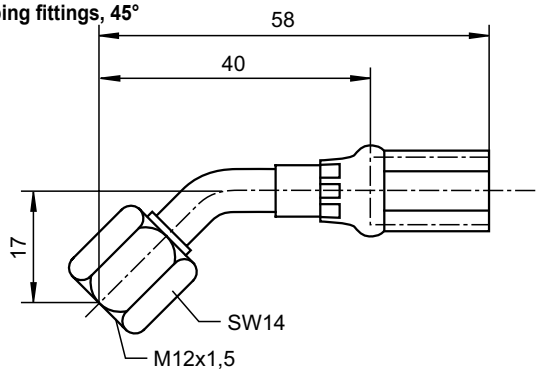
HS NHP 5

Pressarmaturen 90° /
Crimping fittings, 90°



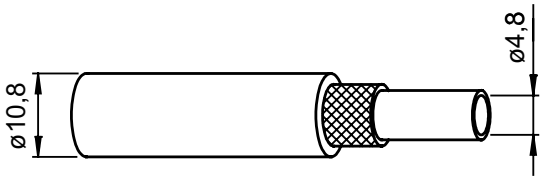
HS NHP 5-90

Pressarmaturen 45° /
Crimping fittings, 45°



HS NHP 5-45

Hochdruckschläuche (Pressschläuche) /
High pressure hose, flexible



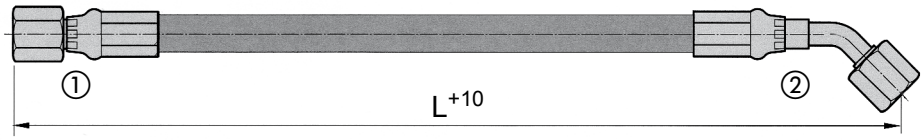
Biegeradius / Bending radius = 38 mm

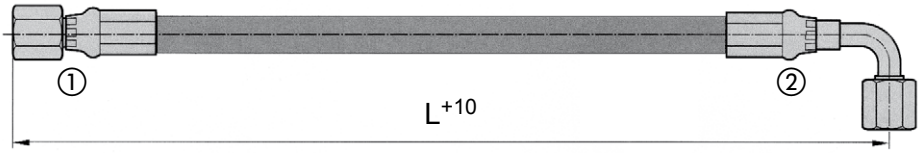
HS NH 220

Bitte bei Bestellung angeben:

L = Gesamtlänge [mm]
L_{min} = 200 mm
① = Typ Armatur 1
② = Typ Armatur 2
α = Lage der Anschlüsse bei abgewinkelten Armaturen

Hinweis:
Bei der Festlegung der Gesamtlänge müssen die Verlegehinweise von Seite NC.130.4 beachtet werden!

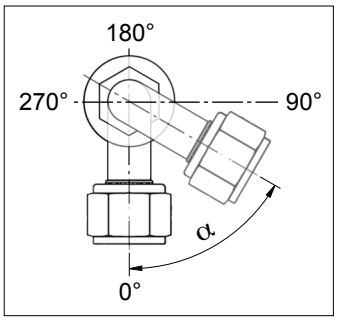




Please specify when ordering:

L = Total length [mm]
L_{min} = 200 mm
① = Type fitting 1
② = Type fitting 2
α = When using angled fittings: degrees of angle

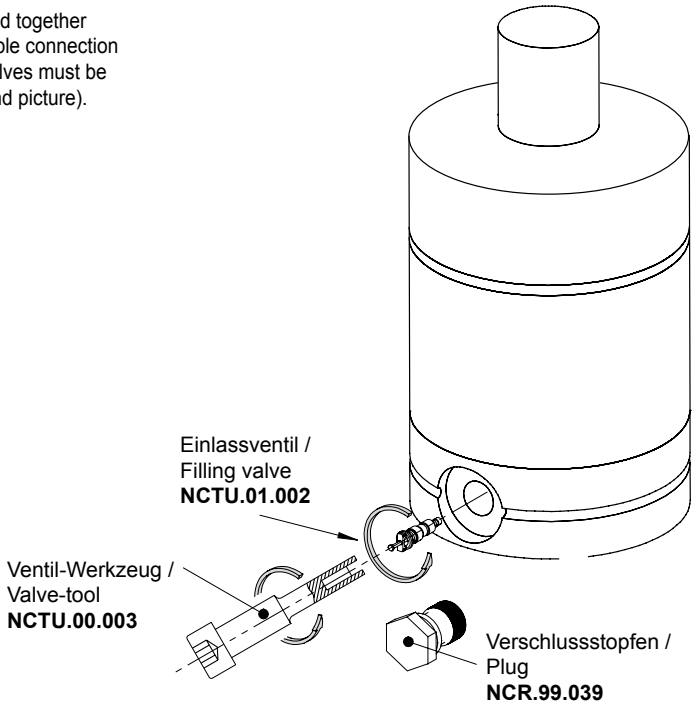
In order to calculate the exact hose-lengths, please follow the instructions on page NC.130.4.



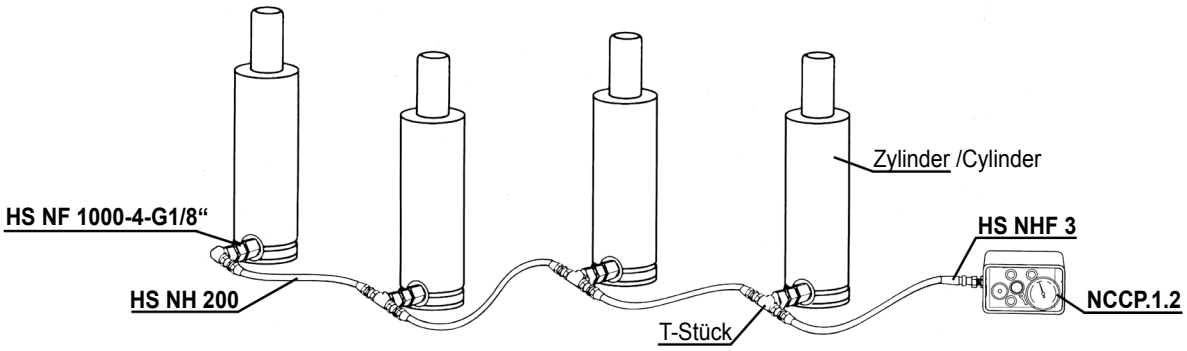
HS NH 220 / 380 / HS NHP 5-45 / HS NHP 5-90 / 60°

Hinweis:
Bei NitroCyl-Gasdruckfedern, die im Verbund eingesetzt werden (siehe Anschlussschema), ist darauf zu achten, dass die Ventile aus den Gasdruckfedern entfernt werden müssen (siehe rechts).

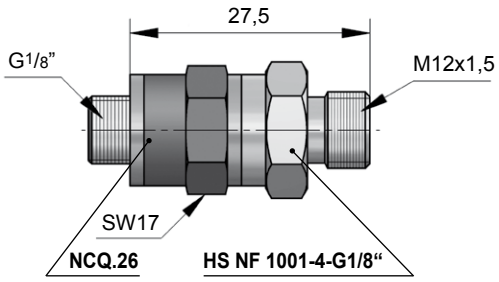
Attention:
If gas-springs are hosed together (like shown in the sample connection diagram below), the valves must be removed (see right hand picture).



Anschlussschema / Connection diagram

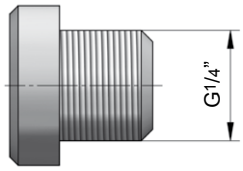


Anschlussstück HS NF 1001-4-G1/8“ mit Adapter NCQ.26 / Straight fitting HS NF 1001-4-G1/8“ with adapter NCQ.26



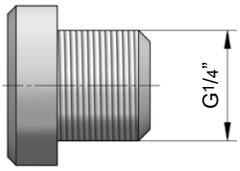
HS NF 1003-4-G1/8“

Berstscheiben 360 bar / Rupture disks 360 bar



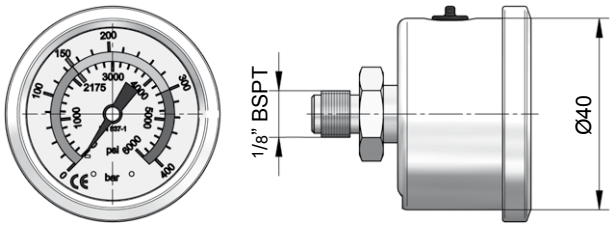
NCR.99.139.1

Berstscheiben 517 bar / Rupture disks 517 bar



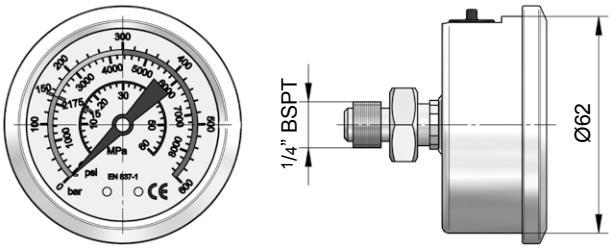
NCR.99.140.1

Kontrollarmaturen 400 bar / Control panels 400 bar



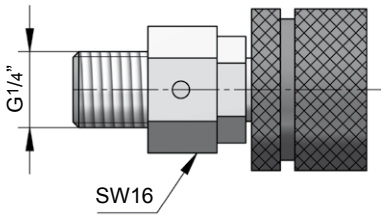
NCTU.00.037

Kontrollarmaturen 600 bar / Control panels 600 bar



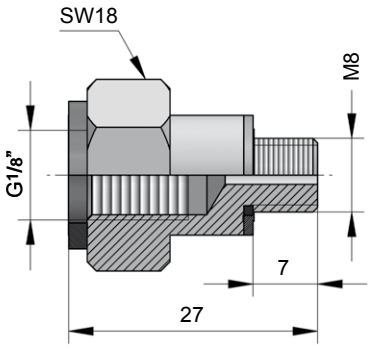
NCTU.00.038

Ablassventile / Bleeding valves



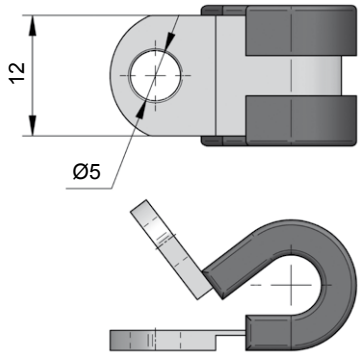
NCR.99.061

Ladeadapter / Charging adapter



NCQ.39

Schlauchschellen / Hose clamps



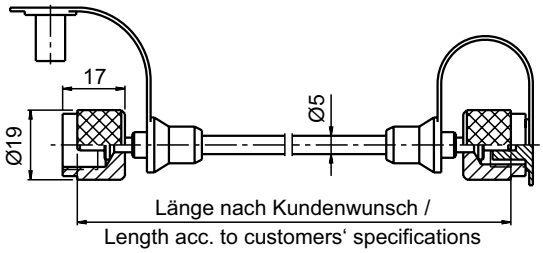
NCR.99.176

Schlauchlängen nach Kundenwunsch! /
Hose length acc. to customer‘s specifications

Standardlängen / Standard lengths [mm]:

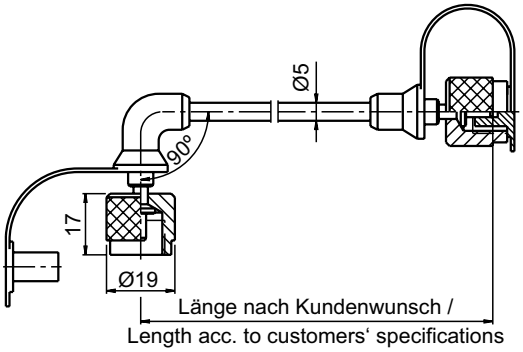
200	700	2000
300	800	2500
400	900	3000
500	1000	
600	1500	

Schläuche / Hoses NCX.12



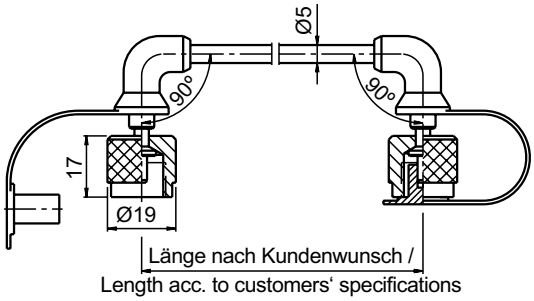
NCX.12.00200

Schläuche / Hoses NCX.13



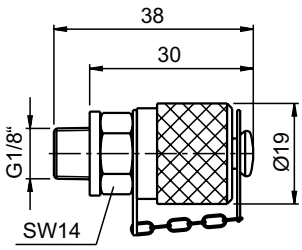
NCX.13.00300

Schläuche / Hoses NCX.15



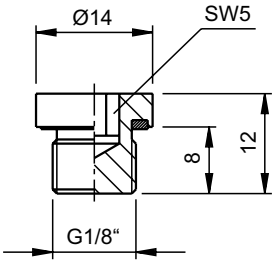
NCX.15.00400

Anschlussstücke mit Ventil und Schutzkappe NCI.00.12 /
Adapter with valve and cover NCI.00.12



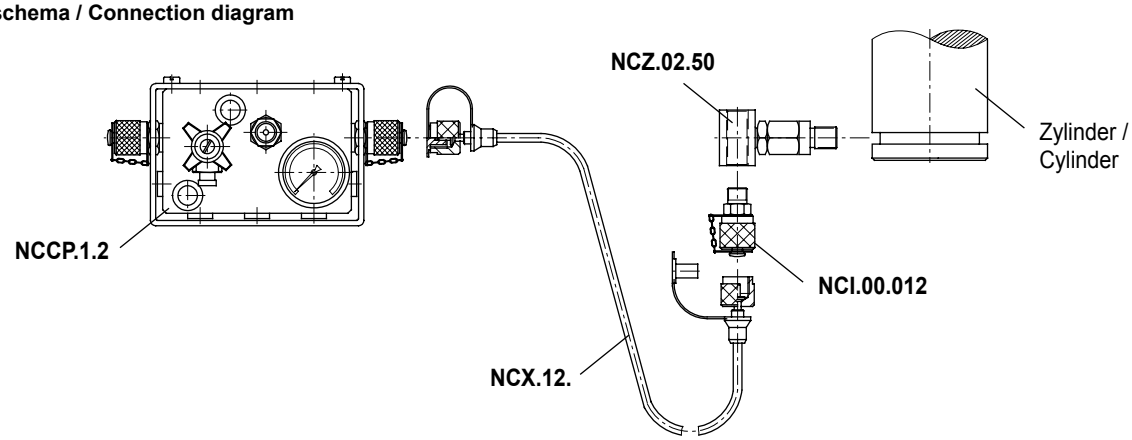
NCI.00.012

Verschlussstopfen / Plug NCR.99.039



NCR.99.039

Anschlussschema / Connection diagram

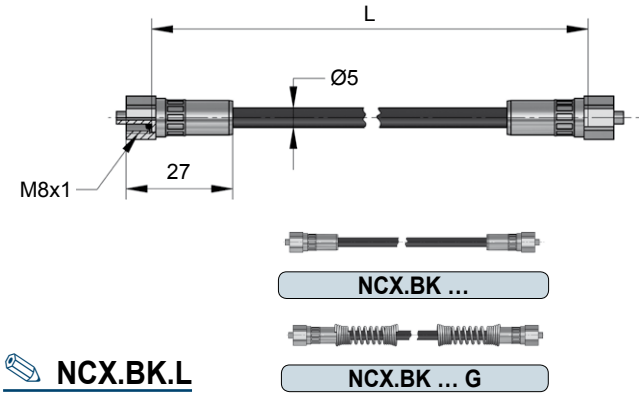


Schlauchlängen nach Kundenwunsch! /
Hose length acc. to customer's specifications

Standardlängen / Standard lengths [mm]:

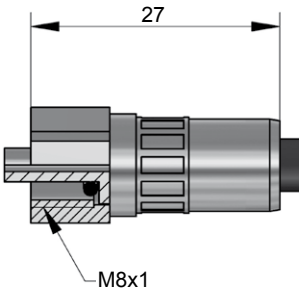
200	800	2000
300	1000	2500
400	1200	3000
500	1250	
630	1500	

Schläuche / Hoses NCX.BK



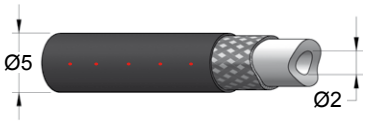
NCX.BK.L

Pressarmaturen / Crimping fittings



NCT.BKRT

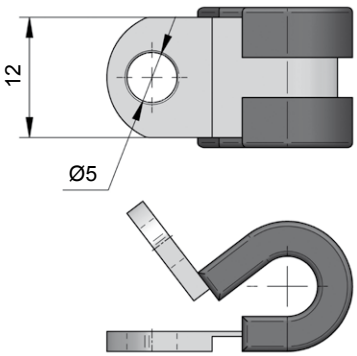
Hochdruckschläuche / High pressure hose



Pmax 400 bar
Tmax 100 °C
Rmin 20 mm

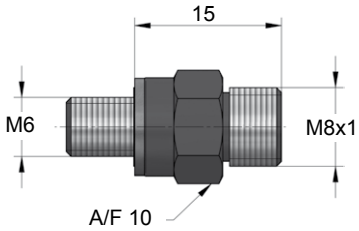
NCX.20.00.010.L

Schlauchschellen / Hose clamps



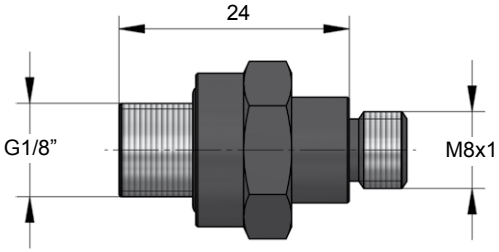
NCR.99.102

Anschlussstücke / Adapter



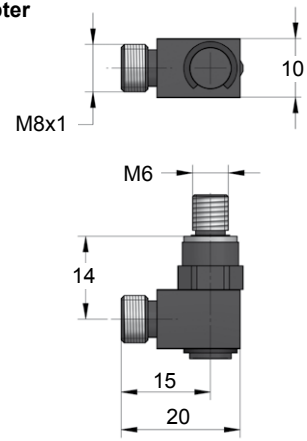
NCI.BK.KRM6

Anschlussstücke / Adapter



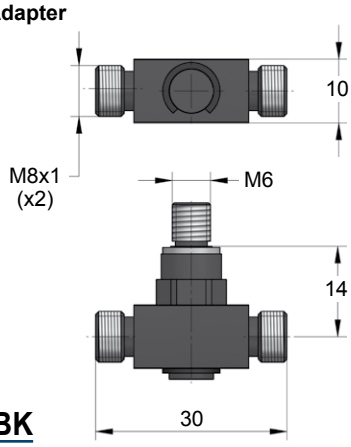
NCI.BK.KRM8

Anschlussstücke / Adapter



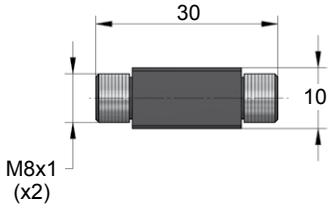
NCI.BK.90BK

Anschlussstücke / Adapter



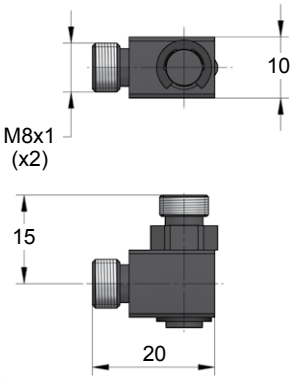
NCI.BK.TEBK

Anschlussstücke / Adapter



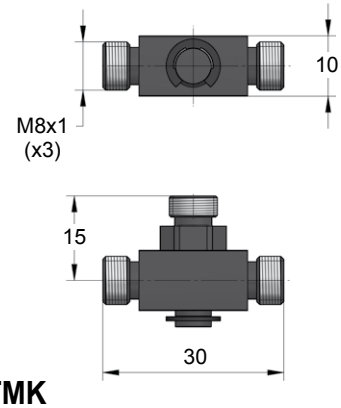
NCI.BK.KRMK

Anschlussstücke / Adapter



NCI.BK.KCMK

Anschlussstücke / Adapter



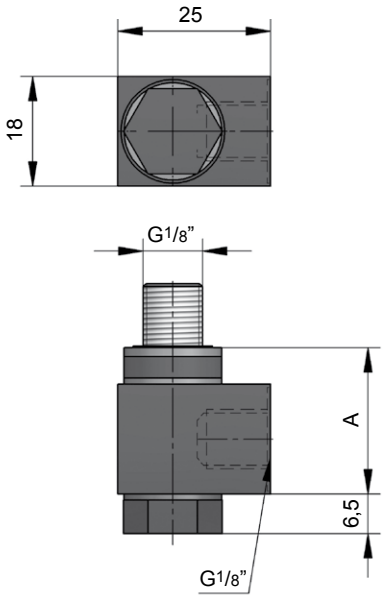
NCI.BK.KTMK

NCZ.01

Anschlussstücke, 1-fach

One way adapter

NCZ.01.48



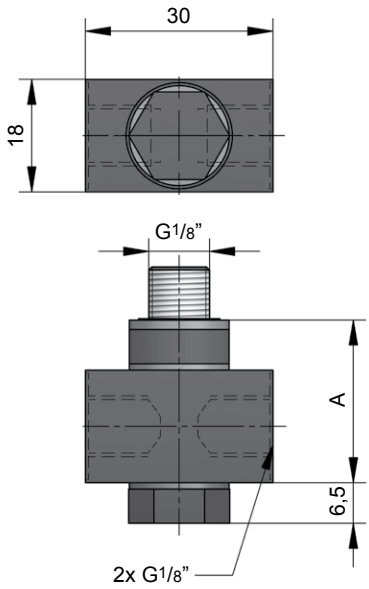
Type	A
NCZ.01.24	24
NCZ.01.38	38
NCZ.01.48	48

NCZ.02

Anschlussstücke, 2-fach

Two way adapter

NCZ.02.40



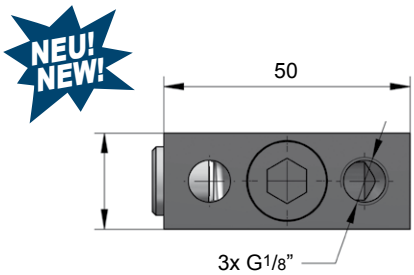
Type	A
NCZ.02.26	26
NCZ.02.40	40
NCZ.02.50	50
NCZ.02.60	60

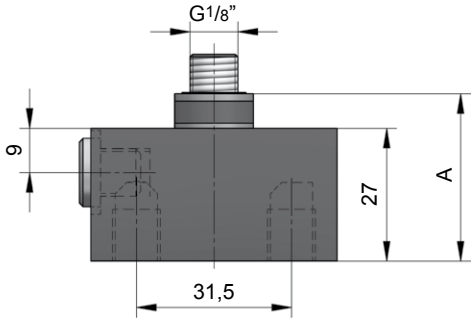
NCZ.03

Anschlussstücke, 3-fach

Three way adapter

NCZ.03.55





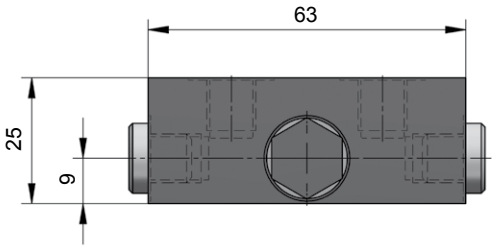
Type	A
NCZ.03.34	34
NCZ.03.48	48
NCZ.03.55	55

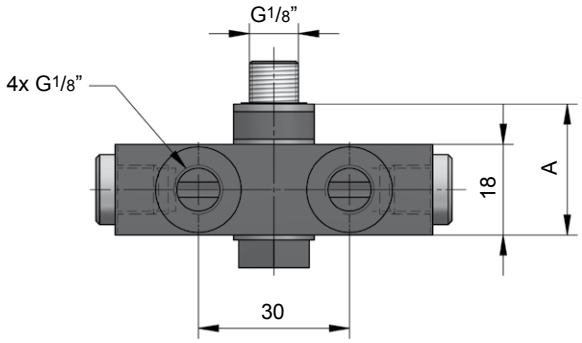
NCZ.04

Anschlussstücke, 4-fach

Four way adapter

NCZ.04.26





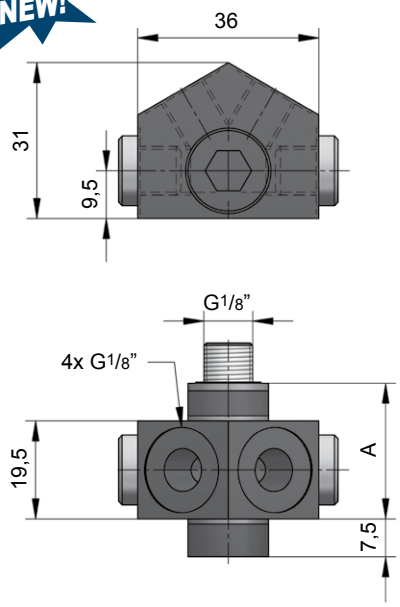
Type	A
NCZ.04.26	26
NCZ.04.40	40
NCZ.04.50	50

NCZ.05

Anschlussstücke, 5-fach | **Five way Adapter**

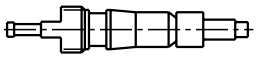
NCZ.05.41

NEU! NEW!



Type	A
NCZ.05.27	27
NCZ.05.41	41
NCZ.05.48	48

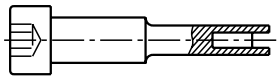
Ventile / Valve



Anzugskraft / Torque: 0,8 Nm

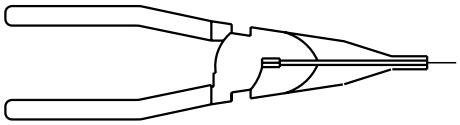
NCTU.01.002

Ventil-Werkzeuge / Valve-tool



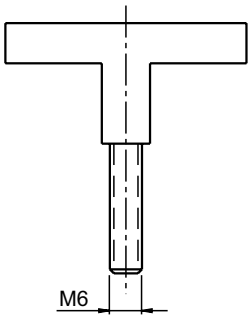
NCTU.00.003

Ventil-Zangen / Valve-pliers



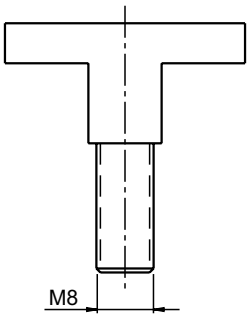
NCTU.00.001

Montage-Werkzeuge (Kolbenstange) / Assembly tool (Piston rod)



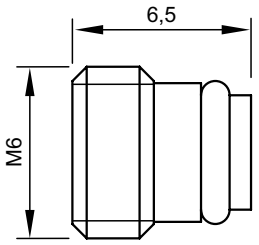
NCTU.00.006

Montage-Werkzeuge (Kolbenstange) / Assembly tool (Piston rod)



NCTU.00.008

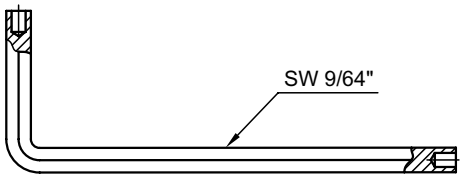
Ventile / Valve



Anzugskraft / Torque: 0,5 Nm

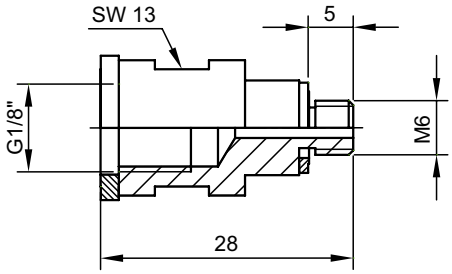
NCR.99.098

Sechskantschlüssel / Hexagon socket head wrench



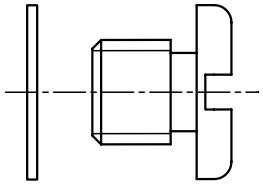
NCTU.00.030

Ladeadapter / Filling adapter



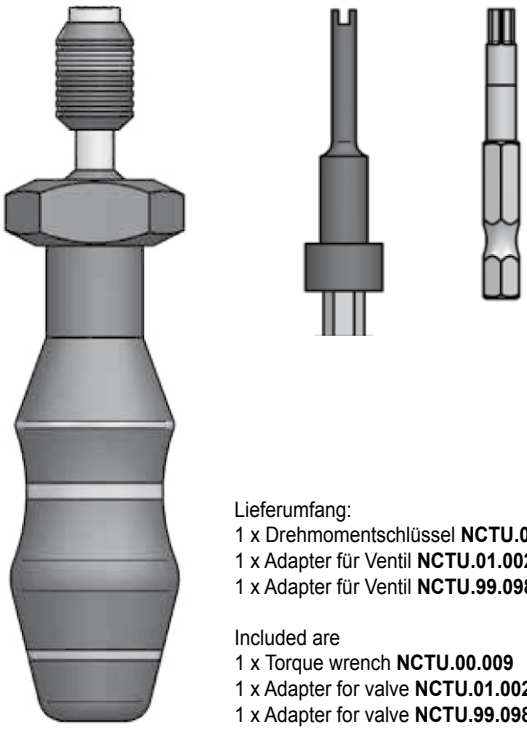
NCQ.32

Stopfen / Plug



NCP.99.096

Drehmomentschlüssel / Torque wrench

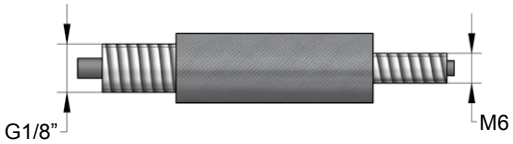


Lieferumfang:
1 x Drehmomentschlüssel **NCTU.00.009**
1 x Adapter für Ventil **NCTU.01.002**
1 x Adapter für Ventil **NCTU.99.098**

Included are
1 x Torque wrench **NCTU.00.009**
1 x Adapter for valve **NCTU.01.002**
1 x Adapter for valve **NCTU.99.098**

NCTU.00.009

Entlüftungswerkzeug / Bleeding tool



NCTU.00.550

NCTU.200

Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern
Tischgerät mit Sicherungskäfig

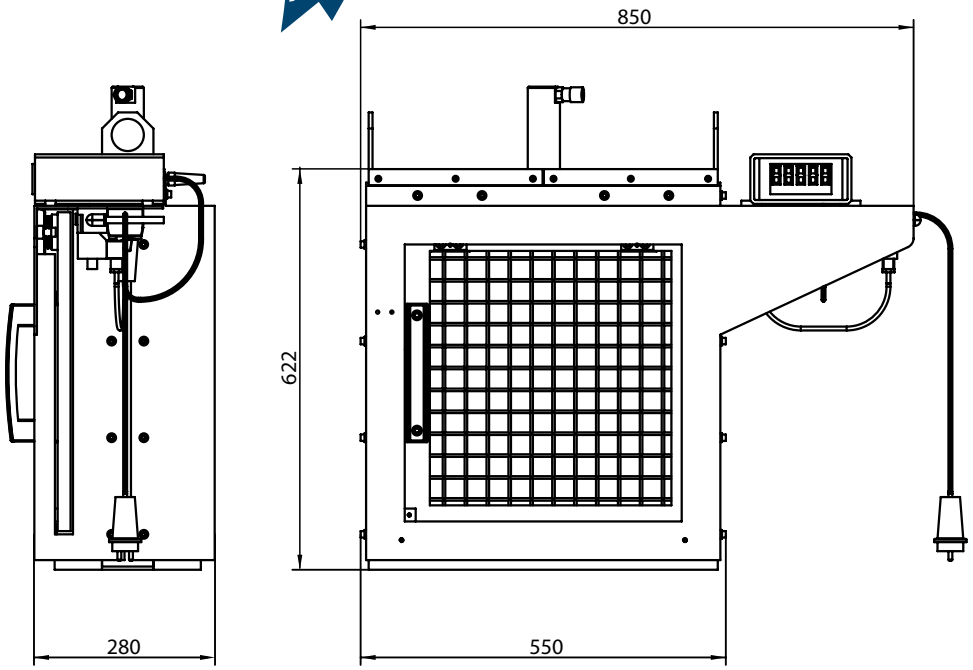
Ausführung:
P = Pneumatik (Luftanschluss)
M = manuell (hydraulische Handpumpe, 150 mm Weg)

Gas-Spring - Dynamometer with digital display.
Table-mounted version with protective metal-housing

Options:
P = Pneumatic (compressed air required)
M = Manual style, hydraulic hand pump with a 150 mm stroke-length

NCTU.200.05000.P

NEU! NEW!



Das Modell NCTU.200 muss vor Inbetriebnahme auf einer stabilen Fläche befestigt werden.

ACHTUNG:
Kraftmessgeräte dürfen nur bei geschlossenem Sicherungskäfig in Betrieb genommen werden.

Before bringing into service, the NTCU.200 - unit must be mounted to a strong, flat surface.

IMPORTANT:
The Dynamometer must only be used with the protective metal-housing completely shut!

Type	Messbereich / Range [daN]
NCTU.200.00750.P	0 - 750
NCTU.200.05000.P	0 - 5000
NCTU.200.00750.M	0 - 750
NCTU.200.05000.M	0 - 5000

NCTU.300

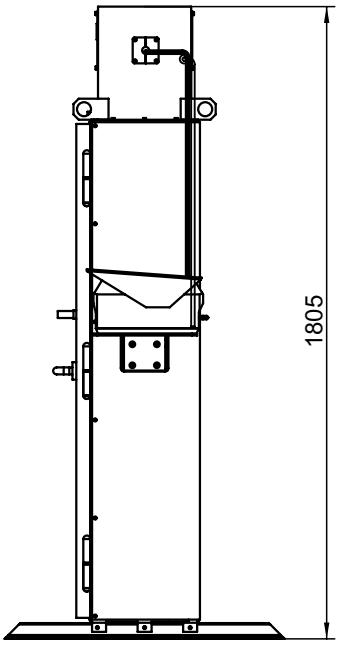
Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern
Standgerät mit Sicherungskäfig

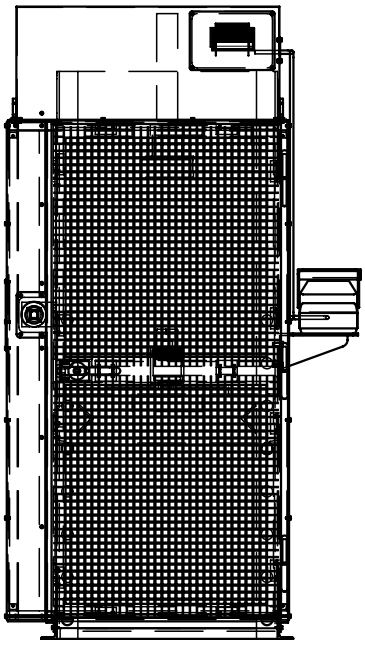
Gas-Spring - Dynamometer with digital display.
Floor-mounted version with protective metal-housing

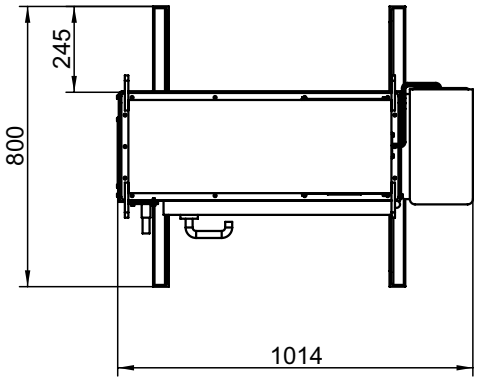
NCTU.300.07500.P

Ausführung:
P = Pneumatik (Luftanschluss)
Auf Wunsch auch manuelle Ausführung.

Options:
P = Pneumatic
Manual style upon request







Das Modell NCTU.300 wenn möglich am Boden befestigen.

ACHTUNG:
Kraftmessgeräte dürfen nur bei geschlossenem Sicherungskäfig in Betrieb genommen werden.

Before bringing into service, the NTCU.300 - unit should be mounted to the floor, if possible.

IMPORTANT:
The Dynamometer must only be used with the protective metal-housing completely shut !

Type	Messbereich / Range [daN]
NCTU.300.05000.P	0 - 5000
NCTU.300.07500.P	0 - 7500
NCTU.300.10000.P	0 - 10000

NCTU.00.016

Die Druckeinheit **NCTU.00.016** wurde entwickelt um die Stickstoffflasche, welche zum Befüllen von Gasdruckfedern, Tanks und Tankerplatten benötigt wird, bis auf ein Minimum von ca. 20 bar entleeren zu können.

Bitte fordern Sie technische Unterlagen an!

At a point, where the pressure in the nitrogene bottle reaches values under desired levels (f.e. 120 bars), this accumulator pulls the nitrogene out of the bottle (down to a rest of around 20 bars) and compresses it to the needed higher pressure needed (f.e. 150 bars).

Please contact us for further information!

NCTU.00.016

HS KarryKrimp 1

Zum Verpressen von Hydraulikschläuchen mit ein oder zwei Stahldraht- oder Textilgeflechteinlagen im Größenbereich von 4 bis 20 (ID).

Zum Lieferumfang gehören die Presse mit Handpumpe, Schlauchleitung und zwei Pressringe.
Pressbacken müssen unter Angabe der Quetscharmaturtype gesondert bestellt werden.

Technische Daten
Maße (HxBxT): 686 x 380 x 305 mm
Gesamtgewicht: 23 kg

Bitte fordern Sie technische Unterlagen an!

Schlauchpresse mit Pneumatikantrieb auf Anfrage.

For crimping hydraulic 1- and 2-wire braid hoses in sizes from 4 to 20 mm ID.

Complete with hand pump, hose assembly and 2 die rings.
Dies (sizing based on the fittings to be crimped) need to be ordered separately.

Technical data:
Outside measurements (HxBxT): 686 x 380 x 305 mm
Weight: 23 kg

Please ask for further technical information.

Pneumatically operated press upon request.

HS KarryKrimp 1

NCTU.00.099

NCTU.00.099

Werkzeugsatz bestehend aus:

NCCA.1.1	Kontroll-/Ladearmatur
NCCU.00.550	Ventil-Werkzeug R1/8“ / M6
NCCU.00.020	Schraubendreher, flach 5,5
NCCU.00.DALL3	Sechskantschlüssel 3
NCCU.00.DALL5	Sechskantschlüssel 5
NCCU.00.LRP1	Sicherheitsring-Werkzeug
NCCU.00.039	Kolbenstangen-Zieher M16
NCCU.00.040	Kolbenstangen-Zieher M3
NCCU.00.006	Kolbenstangen-Zieher M6
NCCU.00.008	Kolbenstangen-Zieher M8
NCR.99.034	Aluminium-Koffer
NCCU.00.001	Ventil-Zange
NCCU.00.041	Ventil-Werkzeug
NCCU.00.106	Montagehülse Ø16
NCCU.00.107	Montagehülse Ø20
NCCU.00.108	Montagehülse Ø27
NCCU.00.100	Montagehülse Ø30
NCCU.00.101	Montagehülse Ø40
NCCU.00.017	Montagehülse Ø48
NCCU.00.102	Montagehülse Ø53
NCCU.00.103	Montagehülse Ø70

Toolkit consisting of:

NCCA.1.1	Pressure controller unit
NCCU.00.550	Valve-tool R1/8“ / M6
NCCU.00.020	Screwdriver, flat 5,5
NCCU.00.DALL3	Hexagon socket head wrench 3
NCCU.00.DALL5	Hexagon socket head wrench 5
NCCU.00.LRP1	Locking ring tool
NCCU.00.039	Piston rod puller M16
NCCU.00.040	Piston rod puller M3
NCCU.00.006	Piston rod puller M6
NCCU.00.008	Piston rod puller M8
NCR.99.034	Aluminum suitcase
NCCU.00.001	Valve-pliers
NCCU.00.041	Valve-tool
NCCU.00.106	Assembly sleeve Ø16
NCCU.00.107	Assembly sleeve Ø20
NCCU.00.108	Assembly sleeve Ø27
NCCU.00.100	Assembly sleeve Ø30
NCCU.00.101	Assembly sleeve Ø40
NCCU.00.017	Assembly sleeve Ø48
NCCU.00.102	Assembly sleeve Ø53
NCCU.00.103	Assembly sleeve Ø70

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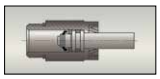
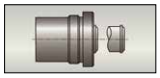
[**hyson**StickstoffSysteme]

[**hyson**NitrogenSystems]

	Standard-Zylinder	**Standard cylinders**	**Best.-Nr. Order no.**	**Seite Page**
	Standard-Zylinder	Standard cylinders	HS MOR … XP HS SB	HS.13 - 15 HS.20
	Standard-Zylinder, tiefbauend	Standard cylinders, smaller height	HS MOR-D . . XP HS TSB	HS.16 - 19

	Speichertanks	**Compression tanks**	**Best.-Nr. Order no.**	**Seite Page**
	Speichertank	Compression tank	HS SCT	HS.29
	Speichertank	Compression tank	HS ST	HS.30

	Kontrollarmaturen	**Conrol panels**	**Best.-Nr. Order no.**	**Seite Page**
	Kontrollarmatur	Control panel	HS CP 1555	HS.25
	Kontrollarmatur	Control panel	HS CPM 1555-E	HS.26
	Kontrollarmatur	Control panel	HS CPM 1555-M	HS.25
	Kontrollarmatur für Hochdruck.Systeme	Control panel for high pressure systems	HS CP-N2	HS.27
	Kontrollarmatur für Hochdruck.Systeme	Control panel for high pressure systems	HS CPM 2000-E	HS.28
	Kontrollarmatur für Hochdruck.Systeme	Control panel for high pressure systems	HS CPM 2000-M	HS.27

	Zubehör Gasdruckfedern	Gas spring accessories	Best.-Nr. Order no.	Seite Page
	Abfüllarmatur	Charging assembly	HS NCA 3000	HS.36
	Anschlussstücke, 45° mit Überwurfmutter	45° elbow swivel nuts	HS NF-4500	HS.38
	Anschlussstücke, 90° mit Überwurfmutter	90° elbow swivel nuts	HS NF-2000	HS.39
	Anschlussstücke, gerade mit Überwurfmutter	Straight fittings	HS NF-1000	HS.38
	Berstscheiben	Rupture disc	HS RD 2150	HS.24
	Druckwächter	Pressure monitor	HS Z 20	HS.34
	Hochdruckschläuche (Pressschläuche)	High pressure hoses, flexible	HS NP	HS.33
	Kompaktventil	Compact valve	HS Z	HS.31
	L-Stück mit Überwurfmutter	Run tee swivel nuts	HS NF-3300	HS.40
	Ladeschlauch	Charging hose	HS NCCS	HS.36
	Pressarmatur 45°	Crimping fittings 45°	HS NHP X-45	HS.33
	Pressarmatur 90°	Crimping fittings 90°	HS NHP X-90	HS.32
	Pressarmatur, gerade	Crimping fittings, straight	HS NHP	HS.32
	Schlauchschelle aus Kunststoff	Hose clamps	HS HC	HS.37
	Schlauchschutzspiralen aus Metall	Hose guards	HS HG	HS.37
	Steckkupplung	Female quick release coupling	HS 11-770-2700	HS.35
	Stecknippel	Male quick release coupling	HS 11-700-8555	HS.35
	T-Stück mit Überwurfmutter	Branch tee swivel nuts	HS NF-3000	HS.39
	Verschlussstopfen mit Anschlussgewinde	Sealing plugs with internal ports	HS NF 771	HS.22 HS.23
	Verschlussstopfen mit Berstscheibe	Sealing plugs with rupture disc	HS NF 771 RD	HS.23

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[technischeHinweise]

Hyson Gasdruckfedern

Gasdruckfedern sind eine sinnvolle Ergänzung zu den in der Praxis benutzten Schrauben, Teller- oder Urelastfedern. Allerdings sind die Vorteile der Gasdruckfedern beachtlich. So können auch in Werkzeuge und Pressen mit begrenztem Einbauraum hohe Kräfte und Hubwege eingebracht werden. Ein weiterer Vorteil ist der geringe Druckanstieg, wie auch die einfache Kraftveränderung gegenüber den Schrauben-, Teller- oder Urlastfedern. So können sich diese Vorteile positiv bei der Teilefertigung und bei den Werkzeugen und Pressen auswirken.
Die Gasdruckfedern werden mit dem umweltfreundlichen Medium “Stickstoff” gefüllt. Durch das variable Befüllen der Gasdruckfedern zwischen 20 bar min. und 110 bar (135 bar) max. ist es möglich, die exakte Kraft, die benötigt wird, zu erreichen. Es ist darauf zu achten, dass der max. Druck für die einzelnen Gasdruckfeder-Typen von max. 110 bar (135 bar) nicht überschritten wird. Hyson Gasdruckfedern können je nach Anforderung als Einzelelement oder auch im Verbund (Schlauchverbindungen) eingesetzt werden. Die Gasdruckfedern werden nach neuesten Technologien gefertigt und haben einen hohen Qualitäts-Standard. Sind Werkzeuge, Vorrichtungen oder Pressen mit Gasdruckfedern bestückt, so sollte mit einem Hinweis-Schild (welches gut sichtbar sein sollte) darauf hingewiesen werden.

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße 17 • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

ACHTUNG

Werkzeug/Presse ist mit Gasdruckfedern bestückt.

Fülldruck max. 110 bar (135 bar)

Achtung:
Arbeiten am System nur im drucklosen Zustand.
Bitte Wartungsanleitung lesen.

Druck max. ..... bar Arbeitsdruck ..... bar

Achtung:
Wartungsarbeiten nur, wenn das Stickstoff-System drucklos ist. Lesen Sie die Wartungsanleitung. Wartungsarbeiten werden auch durch unser Fachpersonal ausgeführt. Bitte sprechen Sie uns an.

ZUGELASSEN PED 97/23/EG

Hyson Gasdruckfedern werden entsprechend der Druckgeräte-Richtlinie 97/23/EG gefertigt (PED Zertifikat Nummer 21126-2).

Vom Europäischen Parlament und dem Europarat wurde im Mai 1997 die neue Druckgeräte-Richtlinie angenommen und seit dem 29. Mai 2002 in der gesamten EG zwingend vorgeschrieben. Gasdruckfedern sind per Definition “Druckbehälter”.

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MSPN GMBH

Märkische Stanz-Partner

[technicalinformation]

Hyson Gas Springs

Gas Springs are a perfect addition to the commonly used mechanical-, urelast- or disc-springs, offering quite some advantages. For example, even in dies and presses providing limited space, high forces and long strokes can be accomplished.

Another advantage is the slow pressure increase as well as the easy readjustment of forces when needed. Gas springs are filled with the environment-friendly „nitrogen“ - gas.

By charging the spring in between 20 and 110 (in some cases 135 max. !!) bar, the user has the possibility to obtain exactly the force needed for the specific application.

Hyson Gas Springs may be used as stand-alones, but can be hosed together as well.
They are manufactured using the latest production technologies and with high technical and safety standards.
In case dies or presses utilize gas springs, a big-enough sign should inform the user about them being built in.

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße 17 • D-58515 Lüdenscheid
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Attention

This die / this press utilizes nitrogen gas springs with high pressure
(110 bar - 135 bar) and the resulting very high forces.

Repair and maintenance must only take place after the unit(s)
have been unloaded and unpressured !

Pressure max. ..... bar Working pressure ..... bar

Attention:
Repair and Maintenance must onlytake place of after the unit(s) have been unloaded and unpressured !
Please read maintenance manual. If you require assistance, please contact us.

ZUGELASSEN PED 97/23/EG

Hyson gas springs are manufactured in accordance with the PED-directive 97/23EG (PED Certificate Number 21126-2).

In May 1997 the European Parliament and the Council of Europe agreed on the new „Pressure Equipment Directive“, which in 2002 became law throughout the EC.

Informationen

Tankplatten-Aufbau

Zur Herstellung einer Tankplatte werden folgende Teile benötigt: Eine Platte (1), aus Stahl oder Aluminium (ultraschallgeprüft) zur Aufnahme der Stickstoff-Zylinder (2) und der Speicherbohrungen (3). Die Speicherbohrungen verbinden die Zylinder und nehmen das Stickstoff-Volumen auf (keine Sackbohrungen, da sich Ablagerungen ansammeln könnten). Die Kontrollarmatur (4), die direkt an der Tankplatte oder in Verbindung mit einem Hochdruck-schlauch zum Beispiel am Pressen-körper montiert werden kann, wird zur Befüllung benötigt oder um das System drucklos zu machen. Über das Manometer kann der aktuelle Systemdruck abgelesen werden.

Bei Interesse an einem Hyson Stickstoff-System bieten wir Ihnen eine Systemkonzeption nach Kunden-angaben an.

Dazu benötigen wir folgende System-Parameter:

- den verfügbaren Platz: Länge, Breite, Höhe (bei ausgefahrener Zylinder-Kolbenstange)
- Nominalhub des Zylinders und den Arbeitshub
- benötigte Kraft
- maximale Anzahl der Zylinder
- erlaubter Druckanstieg innerhalb des Arbeitshubs
- Position der Kontrollarmatur (integ-riert/extern)
- Zusatzbearbeitung: Taschen, Durchbrüche, Bohrungen, Gewin-de, etc.
- Pressengeschwindigkeit (Hub pro min)
- Einsatz von Ziehölen (Einbringen von Drainagebohrungen)
- jährliche Hub-Gesamtleistung
- CAD (soweit verfügbar)

Für den Fall, dass unsere Kunden das System selber konfigurieren möchten, sind auf den nachfolgenden Seiten einige Anleitungen für das Standard-System bis 103 bar sowie für das Hochdruck-System bis 138 bar zu finden.

Manifold System Design

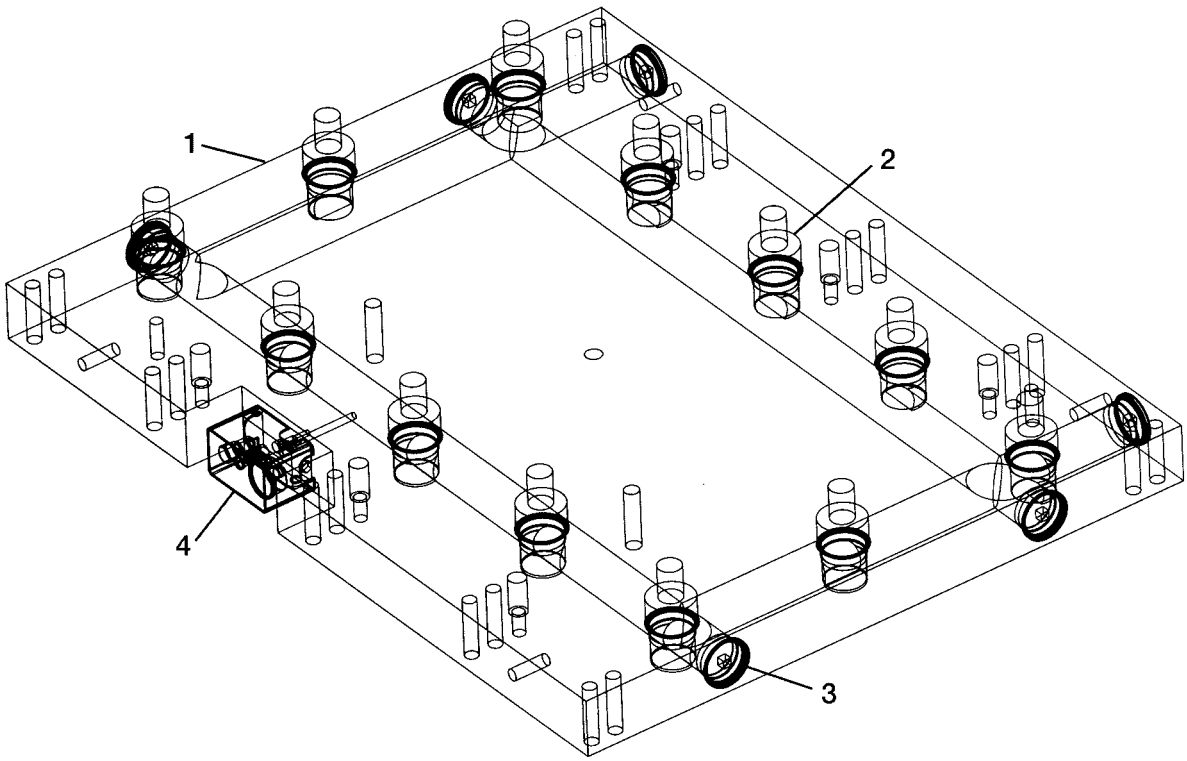
The typical manifold incorporates a metal plate, cylinders and control pa-nel. The manifold plate (1) is machi-ned to hold cylinders in place and act as a reservoir for nitrogen gas. Cylin-ders (2) are located wherever force is needed, threaded into the plate and sealed by an O-ring. The cylinders are connected by passages through which the nitrogen gas travels (3). A control panel (4) is mounted to the manifold plate or attached with a hose for remote operation. Reading the pressure within the system as well as charging and exhausting the system are accomplished through the control panel.

Save time and money and let our Engineered Products group design the most cost effective and efficient manifold system for you. We can turn around a quote quickly, often within 24 hours.

Here is the information we need to expedite your quotation:

- Maximum area available: length, width, thickness, overall height with cylinders fully extended
- Cylinder working stroke and prefer-red usable stroke
- Tonnage required
- Maximum number of cylinders
- Allowable pressure rise from initial contact to end of work stroke
- Special features: mounting holes, dowel holes, key ways, pockets, scrap chutes, etc.
- Location of control panel: recessed in plate or remote-hosed to plate
- Press speed (Strokes Per Minute-SPM)
- Use of drawing lubricants, i.e. can die be flooded with lubricants?
- Annual production levels
- CAD drawing or hand-drawn sketch with data points

If you choose to design the system yourself, step-by-step guides follow for designing both standard 1500 psi and high pressure 2000 psi systems.



Berechnung eines Standard-Tankplatten-Systems mit 103 bar

Schritt 1: Kraft

Ermitteln Sie die erforderliche Kraft zur Umformung, zum Halten oder Abstreifen des Blechteils.
Beispiel: Zur Umformung eines Blechteils wird die Kraft von 15.000 daN benötigt.

Schritt 2: Anzahl der Zylinder HS MOR-XP

Legen Sie die Anzahl der benötigten Druckpunkte fest, um die Kraft gleichmäßig über den gesamten Niederhalter zu verteilen. Um Abweichungen in Bezug auf Blechstärken, Zugfestigkeiten und allgemeine Abnutzung zu berücksichtigen, wählen Sie mehr Kraft als eigentlich rechnerisch erforderlich.
Beispiel: Wenn das gewünschte System nun über 20.000 daN (mehr als die zuvor kalkulierten 15.000 daN) verfügen soll, bestehen in Bezug auf die Zylinder-Auswahl folgende Optionen:

40	Zylinder mit jeweils	500 daN
20	Zylinder mit jeweils	1.000 daN
8	Zylinder mit jeweils	2.500 daN
5	Zylinder mit jeweils	4.000 daN
4	Zylinder mit jeweils	6.000 daN

Ausgewählt werden **8** Zylinder mit je **2.500 daN**, die eine gute Kraftverteilung sicher stellen.

Schritt 3: Hub

Die Arbeitshublänge des Niederhalters bestimmt die Hublänge der Gasdruckfedern, wobei die Standardhübe der meisten Zylinder in etwa in 12,7 mm-Schritten ansteigen. Wählen Sie eine Hublänge, die sicher zu jeder Zeit größer ist als der Arbeitshub.
Beispiel: Da der Arbeitshub des Niederhalters 44,45 mm betragen soll, wählen Sie einen Zylinder mit 50 mm Hublänge.

Designing a Standard 1500 psi System

Step One – Force

Determine how much force is needed to form, hold, strip or draw the part.
Example: 15 tons of force is required for a conventional draw of a rectangular part.

Step Two – Cylinder Quantity of HS MOR-XP

Determine how many pressure points are needed to distribute the pressure evenly across the pad. To accommodate variances in part thickness, tensile strength, and die wear, build in more force than required.

Example: The system design has the capability for 20 tons, more than the 15 tons required.

40	cylinders, each with	500 daN
20	cylinders, each with	1.000 daN
8	cylinders, each with	2.500 daN
5	cylinders, each with	4.000 daN
4	cylinders, each with	6.000 daN

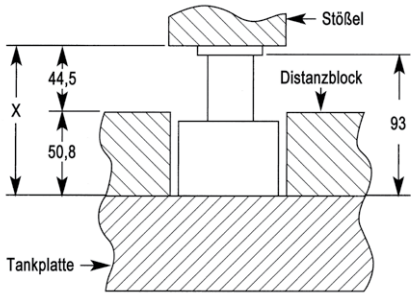
Eight 2.5 ton cylinders provide a good pressure point distribution with the necessary tonnage.

Step Three – Cylinder Stroke

Pad travel dictates stroke length, and standard strokes for most cylinder types are in one-half-inch increments. Choose the stroke length that will not be exceeded by the actual working stroke.

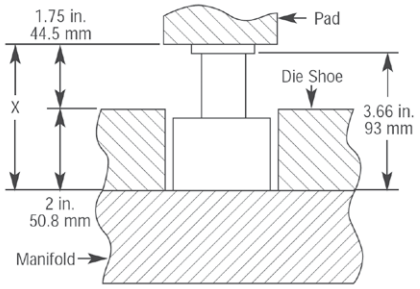
Example: The travel of the pad is 1-3/4 inches so the proper cylinder stroke for this application is 2 inches.

Schritt 4: Zylinder-Auswahl



Ermitteln Sie das X-Maß bei geöffnetem Werkzeug und wählen Sie einen Zylinder, der in seiner Gesamtbauhöhe möglichst nah an diesem Wert liegt. Berücksichtigen Sie dabei, dass eine Gasdruckfeder niemals „auf Block“ gefahren werden darf.
Beispiel: Der nun ermittelte, passende Zylinder ist ein
HS MOR-D 2.5-2,00 XP

Step Four – Cylinder Profile



Measurement from the bottom of the shoe to the bottom of the pad in the die-open position is known as the “X” dimension. Choose a cylinder that closely matches this dimension, remembering that the cylinder should be always protected from overstroking.
Example: The appropriate cylinder choice is the
HS MOR-D 2.5-2,00 XP

Schritt 5: Druckanstieg / Bohrungsvolumen

Konventionelle Ziehwerkzeuge benötigen einen kontrollierten Materialfluss, der durch eine konstante Kraft des Zylinders während des Hubs erreicht wird. Das hier beschriebene System arbeitet üblicherweise mit einem Druckanstieg von 10% - 20%, andere Systeme können auch steilere Druckanstiegskurven aufweisen.
Um das benötigte Volumen zu errechnen müssen Sie zunächst das Stickstoff-Verdrängungsvolumen (SV) kalkulieren. Das ist die Menge Stickstoff, die während des Hubs in Summe aus allen Zylindern herausgedrückt wird.
Die effektive Fläche der Kolbenstange beträgt bei den Zylindern mit …

500 daN	5,03 cm^2
1.000 daN	11,40 cm^2
2.500 daN	22,20 cm^2
4.000 daN	34,90 cm^2
6.000 daN	51,50 cm^2

Das gesamte Stickstoff-Verdrängungsvolumen (SV) errechnet sich in unserem Beispiel nun aus der Formel:
SV = Anzahl Zylinder x Länge Arbeitshub X Effektive Fläche der Kolbenstange

Beispiel:
SV = 8 X 4,445 cm X 22,2 cm^2
SV = 789,4 cm^3

Step Five – Pressure Rise/Volume Holes

Controlled material flow is needed in conventional draw dies with cylinders maintaining constant force throughout the stroke. This type of system is usually designed with a 10%-20% pressure rise, while other systems can use a higher pressure rise.
Determine the volume requirements, and therefore the length and diameter of the drilled holes, by calculating the Swept Volume (SV), the amount of nitrogen displaced from the cylinders during the stroke.

500 daN	0.78 $in.^2$
1.000 daN	1.77 $in.^2$
2.500 daN	3.44 $in.^2$
4.000 daN	5.42 $in.^2$
6.000 daN	7.98 $in.^2$

SV = number of cylinders X work stroke of cylinders X effective piston area of cylinders

Example:
SV = 8 X 1.75 in. X 3.44 $in.^2$
SV = 48.16 $in.^3$

Abschließend berücksichtigen Sie bitte den entsprechenden Druckanstiegs-Faktor (DF) bei gewünschtem Druckanstieg. Bei gefordertem Druckanstieg von …

10% ergibt sich ein DF von 10,00
15% ergibt sich ein DF von 6,66
20% ergibt sich ein DF von 5,00

Das benötigte, in den Bohrungen unterzubringende Gesamtvolumen beträgt somit letztendlich: SV x DF

Beispiel (für 10%igen Druckanstieg):
Gesamtvolumen = 789,4 cm^3 x 10
= 7.894 cm^3

Abschließend wird dieses benötigte Gesamtvolumen in der Tankplatte eingebracht. Dabei ist der Bohrungsdurchmesser und damit der zu errechnende Bohrungsquerschnitt von der Dicke der Tankplatte abhängig.
Solange es die Einbaumaße erlauben, empfiehlt es sich aus Kostengründen immer, auf dickere Tankplatten zurück zu greifen, um dann größere, dafür aber kürzere Bohrungen einzubringen.

Calculate the total manifold volume by multiplying the Swept Volume by pressure rise.
If you wish a pressure rise about …

10%, you need the PF 10.00
15%, you need the PF 6.66
20%, you need the PF 5.00

PF = Pressure Rise Factor

The Total Volume you need amounts: SV x PF

Example (for a 10% pressure rise):
Total Volume = 48.16 $in.^3$ x 10
= 481.6 $in.^3$

Note: when shut height allows, design the system with a thicker manifold plate and reduce the number and length of drilled holes to reduce costs.

Die gesuchte Gesamtlänge der Bohrung errechnet sich wie folgt:

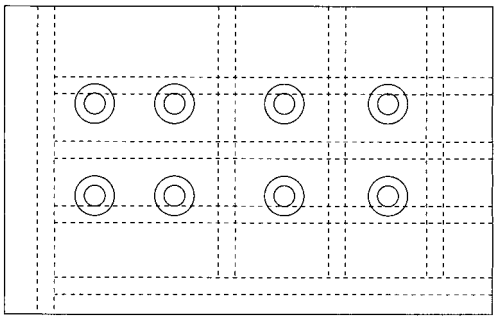
$$\text{Bohrungslänge} = \frac{\text{Gesamtvolumen}}{\text{Bohrungsquerschnitt}}$$

Beispiel: Bei einer Platte mit den Außenabmessungen von etwa 1.200 mm x 2.000 mm x 63 mm beträgt der maximale Bohrungsdurchmesser 38 mm, was einer Kreisfläche von 11,33 cm^2 entspricht. Für die in der Tankplatte unterzubringende Gesamtlänge der Bohrungen ergibt sich

$$\frac{7.894\ cm^3}{11{,}33\ cm^2} = 697\ cm$$

Eine mögliche Verteilung dieser Bohrungen könnte so aussehen:

4 Bohrungen	x	114,3 cm lang	=	457,2 cm Gesamt
3 Bohrungen	x	63,5 cm lang	=	190,5 cm Gesamt
1 Bohrung	x	76,0 cm lang	=	76,0 cm Gesamt
		in Summe		723,7 cm



Convert the Total Volume into linear inches of drilling:

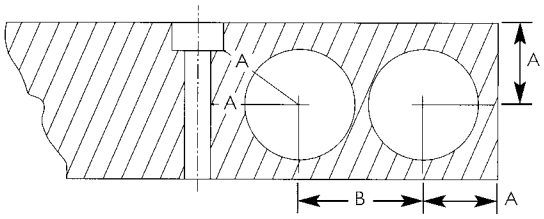
$$\text{Linear Inches Drilling} = \frac{\text{Volume required}}{\text{Volume per inch of drilled hole}}$$

Example:
For a plate measuring 2-1/2 in. X 80 in. X 48 in., the largest diameter volume hole is 1-1/2 in. Volume per linear inch of drilling is 1.767 $in.^2$.

$$\frac{481\ in.^3}{1.767\ in.^2} = 272\ in.$$

Example:

4 holes	x	45 in. long	=	180 linear inches
3 holes	x	21 in. long	=	63 linear inches
1 holes	x	29 in. long	=	29 linear inches
		sum		272 linear inches



Die folgende Tabelle zeigt unter anderem den maximalen Bohrungsdurchmesser unter Berücksichtigung der Plattenstärken:
From the Volume Hole Drilling chart that follows, identify the largest volume hole for the plate thickness:

Verschlussstopfen Plugs	Gewinde Thread	Fläche Area cm^2 ($in.^2$)	Bohrungs-Ø Hole Diameter mm (in.)	A mm (in.)	B mm (in.)	Plattenstärke Plate Thickness mm (in.)	max. Bohrtiefe max. Drilling Depth (1 Seite / 1 Way) mm (in.)
HS NF 771-4	7/16 - 20	0,71 (.110)	9,53 (.375)	9,53 (.375)	18,75 (.738)	51 (2.00)	584 (23)
HS NF 771-5	1/2 - 20	0,97 (.151)	11,13 (.438)	10,31 (.406)	22,22 (.875)	51 (2.00)	584 (23)
HS NF 771-8	3/4 - 16	2,18 (.338)	16,60 (.656)	14,30 (.563)	30,96 (1.219)	51 (2.00)	483 (19)
HS NF 771-10	7/8 - 14	2,85 (.442)	19,05 (.750)	15,88 (.625)	34,93 (1.375)	51 (2.00)	1092 (43)
HS NF 771-12	1 - 1/16 - 12	4,46 (.691)	23,83 (.938)	19,05 (.750)	42,06 (1.656)	51 (2.00)	1092 (43)
HS NF 771-14	1 - 3/16 - 12	5,71 (.886)	26,97 (1.062)	22,45 (.884)	46,05 (1.813)	51 (2.00)	1092 (43)
HS NF 771-16	1 - 5/16 - 12	7,15 (1.108)	30,18 (1.188)	23,83 (.938)	50,80 (2.000)	57 (2.25)	1092 (43)
HS NF 771-20	1 - 5/8 - 12	11,40 (1.767)	38,10 (1.500)	26,97 (1.062)	58,75 (2.313)	64 (2.50)	1143 (45)
HS NF 771-24	1 - 7/8 - 12	15,52 (2.405)	44,45 (1.750)	31,75 (1.250)	60,33 (2.375)	70 (2.75)	1194 (47)
HS NF 771-M47	M47 x 2	15,52 (2.405)	44,45 (1.750)	31,75 (1.250)	60,33 (2.375)	70 (2.75)	1194 (47)
HS NF 771-M63	M63 x 2	27,75 (4.301)	59,44 (2.340)	39,70 (1.563)	76,20 (3.000)	89 (3.50)	1829 (72)
HS NF 771-32	2 - 1/2 - 12	28,58 (4.430)	60,33 (2.375)	39,70 (1.563)	76,20 (3.000)	89 (3.50)	1829 (72)
HS NF 771-82	M82 x 2	48,51 (7.518)	78,59 (3.094)	53,98 (2.125)	95,25 (3.750)	114 (4.50)	1524 (60)
HS NF 771-100	M100 x 2	71,26 (11.045)	95,25 (3.750)	63,50 (2.500)	111,25 (4.380)	133 (5.25)	1829 (72)

Berechnung eines Hochdruck-Tankplatten-Systems mit 138 bar

Schritt 1: Kraft

Ermitteln Sie die erforderliche Kraft zur Umformung, zum Halten oder Abstreifen des Blechteils.
Beispiel: Zur Umformung eines Blechteils wird die Kraft von 15.000 daN benötigt.

Schritt 2: Anzahl der Zylinder HS MOR-XP

Legen Sie die Anzahl der benötigten Druckpunkte fest, um die Kraft gleichmäßig über den gesamten Niederhalter zu verteilen. Um Abweichungen in Bezug auf Blechstärken, Zugfestigkeiten und allgemeine Abnutzung zu berücksichtigen, wählen Sie mehr Kraft als eigentlich rechnerisch erforderlich.
Beispiel: Wenn das gewünschte System nun über 20.000 daN (mehr als die zuvor kalkulierten 15.000 daN) verfügen soll, bestehen in Bezug auf die Zylinder-Auswahl folgende Optionen:

26 Zylinder mit jeweils	750 daN
13 Zylinder mit jeweils	1.500 daN
7 Zylinder mit jeweils	3.000 daN
4 Zylinder mit jeweils	5.000 daN
3 Zylinder mit jeweils	8.000 daN

Ausgewählt werden **4** Zylinder mit je **5.000 daN**, die eine gute Kraftverteilung sicher stellen.

Schritt 3: Hub

Die Arbeitshublänge des Niederhalters bestimmt die Hublänge der Gasdruckfedern, wobei die Standardhübe der meisten Zylinder in etwa in 12,7 mm-Schritten ansteigen. Wählen Sie eine Hublänge, die sicher zu jeder Zeit größer ist als der Arbeitshub.
Beispiel: Da der Arbeitshub des Niederhalters 44,45 mm betragen soll, wählen Sie einen Zylinder mit 50 mm Hublänge.

Designing a High Pressure 2000 psi System

Step One – Force

Determine how much force is needed to form, hold, strip or draw the part.
Example: 15 tons of force is required for a conventional draw of a rectangular part.

Step Two – Cylinder Quantity of HS MOR-XP

Determine how many pressure points are needed to distribute the pressure evenly across the pad. To accommodate variances in part thickness, tensile strength, and die wear, build in more force than required.

Example: The system design has the capability for 20 tons, more than the 15 tons required.

26 cylinders, each with	750 daN
13 cylinders, each with	1.500 daN
7 cylinders, each with	3.000 daN
4 cylinders, each with	5.000 daN
3 cylinders, each with	8.000 daN

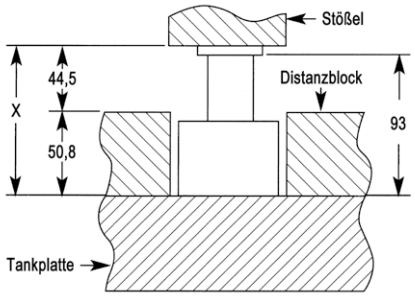
Four 5.0 ton cylinders provide a good pressure point distribution with the necessary tonnage.

Step Three – Cylinder Stroke

Pad travel dictates stroke length, and standard strokes for most cylinder types are in one-half-inch increments. Choose the stroke length that will not be exceeded by the actual working stroke.

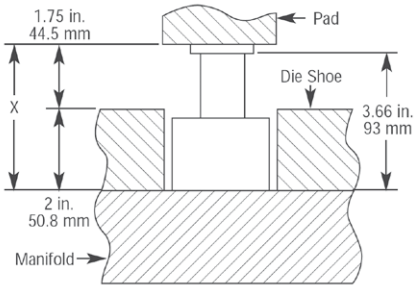
Example: The travel of the pad is 1-3/4 inches so the proper cylinder stroke for this application is 2 inches.

Schritt 4: Zylinder-Auswahl



Ermitteln Sie das X-Maß bei geöffnetem Werkzeug und wählen Sie einen Zylinder, der in seiner Gesamtbauhöhe möglichst nah an diesem Wert liegt. Berücksichtigen Sie dabei, dass eine Gasdruckfeder niemals „auf Block“ gefahren werden darf.
Beispiel: Der nun ermittelte, passende Zylinder ist ein
HS MOR-D 5000-2,00 XP

Step Four – Cylinder Profile



Measurement from the bottom of the shoe to the bottom of the pad in the die-open position is known as the “X” dimension. Choose a cylinder that closely matches this dimension, remembering that the cylinder should be always protected from overstroking.
Example: The appropriate cylinder choice is the
HS MOR-D 5000-2,00 XP

Schritt 5: Druckanstieg / Bohrungsvolumen

Konventionelle Ziehwerkzeuge benötigen einen kontrollierten Materialfluss, der durch eine konstante Kraft des Zylinders während des Hubs erreicht wird. Das hier beschriebene System arbeitet üblicherweise mit einem Druckanstieg von 10% - 20%, andere Systeme können auch steilere Druckanstiegskurven aufweisen.
Um das benötigte Volumen zu errechnen müssen Sie zunächst das Stickstoff-Verdrängungsvolumen (SV) kalkulieren. Das ist die Menge Stickstoff, die während des Hubs in Summe aus allen Zylindern herausgedrückt wird.
Die effektive Fläche der Kolbenstange beträgt bei den Zylindern mit …

750 daN	5,03 cm^2
1.500 daN	11,40 cm^2
3.000 daN	22,20 cm^2
5.000 daN	34,90 cm^2
8.000 daN	51,50 cm^2

Das gesamte Stickstoff-Verdrängungsvolumen (SV) errechnet sich in unserem Beispiel nun aus der Formel:
SV = Anzahl Zylinder x Länge Arbeitshub X Effektive Fläche der Kolbenstange

Beispiel:
SV = 4 X 4,445 cm X 34,9 cm^2
SV = 620,5 cm^3

Step Five – Pressure Rise/Volume Holes

Controlled material flow is needed in conventional draw dies with cylinders maintaining constant force throughout the stroke. This type of system is usually designed with a 10%-20% pressure rise, while other systems can use a higher pressure rise.
Determine the volume requirements, and therefore the length and diameter of the drilled holes, by calculating the Swept Volume (SV), the amount of nitrogen displaced from the cylinders during the stroke.

750 daN	0.78 $in.^2$
1.500 daN	1.77 $in.^2$
3.000 daN	3.44 $in.^2$
5.000 daN	5.42 $in.^2$
8.000 daN	7.98 $in.^2$

SV = number of cylinders X work stroke of cylinders X effective piston area of cylinders

Example:
SV = 4 X 1.75 in. X 5.42 $in.^2$
SV = 37.94 $in.^3$

Abschließend berücksichtigen Sie bitte den entsprechenden Druckanstiegs-Faktor (DF) bei gewünschtem Druckanstieg. Bei gefordertem Druckanstieg von …

10% ergibt sich ein DF von 10,00
15% ergibt sich ein DF von 6,66
20% ergibt sich ein DF von 5,00

Das benötigte, in den Bohrungen unterzubringende Gesamtvolumen beträgt somit letztendlich: SV x DF

Beispiel (für 10%igen Druckanstieg):
Gesamtvolumen = 620,5 cm^3 x 10
= 6205 cm^3

Abschließend wird dieses benötigte Gesamtvolumen in der Tankplatte eingebracht. Dabei ist der Bohrungsdurchmesser und damit der zu errechnende Bohrungsquerschnitt von der Dicke der Tankplatte abhängig.
Solange es die Einbaumaße erlauben, empfiehlt es sich aus Kostengründen immer, auf dickere Tankplatten zurück zu greifen, um dann größere, dafür aber kürzere Bohrungen einzubringen.

Calculate the total manifold volume by multiplying the Swept Volume by pressure rise.
If you wish a pressure rise about …

10%, you need the PF 10.00
15%, you need the PF 6.66
20%, you need the PF 5.00

PF = Pressure Rise Factor

The Total Volume you need amounts: SV x PF

Example (for a 10% pressure rise):
Total Volume = 37.94 $in.^3$ x 10
= 379.4 $in.^3$

Note: when shut height allows, design the system with a thicker manifold plate and reduce the number and length of drilled holes to reduce costs.

Die gesuchte Gesamtlänge der Bohrung errechnet sich wie folgt:

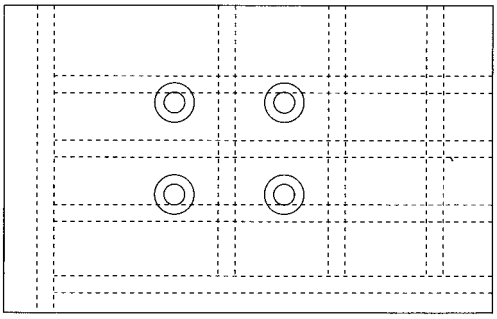
$$\text{Bohrungslänge} = \frac{\text{Gesamtvolumen}}{\text{Bohrungsquerschnitt}}$$

Beispiel: Bei einer Platte mit den Außenabmessungen von etwa 1.200 mm x 2.000 mm x 63 mm beträgt der maximale Bohrungsdurchmesser 38 mm, was einer Kreisfläche von 11,33 cm^2 entspricht. Für die in der Tankplatte unterzubringende Gesamtlänge der Bohrungen ergibt sich

$$\frac{6205\ cm^3}{11{,}33\ cm^2} = 547{,}7\ cm$$

Eine mögliche Verteilung dieser Bohrungen könnte so aussehen:

4 Bohrungen	x	70 cm lang	=	280 cm Gesamt
3 Bohrungen	x	51 cm lang	=	153 cm Gesamt
1 Bohrung	x	117 cm lang	=	117 cm Gesamt
		in Summe		550 cm



Convert the Total Volume into linear inches of drilling:

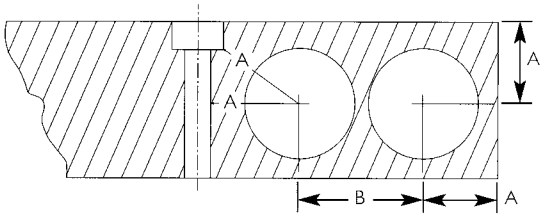
$$\text{Linear Inches Drilling} = \frac{\text{Volume required}}{\text{Volume per inch of drilled hole}}$$

Example:
For a plate measuring 2-1/2 in. X 80 in. X 48 in., the largest diameter volume hole is 1-1/2 in. Volume per linear inch of drilling is 1.767 $in.^2$.

$$\frac{379.4\ in.^3}{1.767\ in.^2} = 214.7\ in.$$

Example:

4 holes	x	27.56 in. long	=	110.24linear inches
3 holes	x	20.09 in. long	=	60.27 linear inches
1 holes	x	46.06 in. long	=	46.06 linear inches
		sum		216.57 linear inches



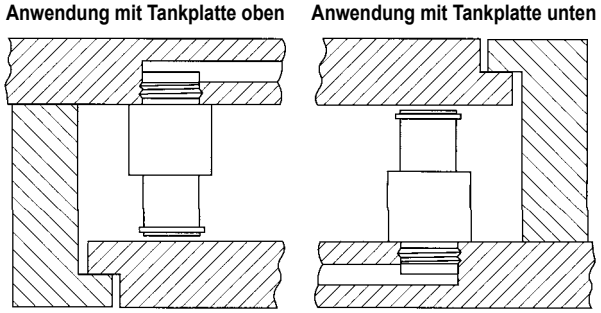
Die folgende Tabelle zeigt unter anderem den maximalen Bohrungsdurchmesser unter Berücksichtigung der Plattenstärken:
From the Volume Hole Drilling chart that follows, identify the largest volume hole for the plate thickness:

Verschlussstopfen Plugs	Gewinde Thread	Fläche Area cm^2 ($in.^2$)	Bohrungs-Ø Hole Diameter mm (in.)	A mm (in.)	B mm (in.)	Plattenstärke Plate Thickness mm (in.)	max. Bohrtiefe max. Drilling Depth (1 Seite / 1 Way) mm (in.)
HS NF 771-4	7/16 - 20	0,71 (.110)	9,53 (.375)	9,40 (.370)	19,05 (.750)	51 (2.00)	584 (23)
HS NF 771-5	1/2 - 20	0,97 (.151)	11,13 (.438)	10,41 (.410)	22,22 (.875)	51 (2.00)	584 (23)
HS NF 771-8	3/4 - 16	2,18 (.338)	16,60 (.656)	15,24 (.600)	30,96 (1.219)	51 (2.00)	483 (19)
HS NF 771-10	7/8 - 14	2,85 (.442)	19,05 (.750)	17,53 (.690)	34,93 (1.375)	51 (2.00)	1092 (43)
HS NF 771-12	1 - 1/16 - 12	4,46 (.691)	23,83 (.938)	21,34 (.840)	42,06 (1.656)	51 (2.00)	1092 (43)
HS NF 771-14	1 - 3/16 - 12	5,71 (.886)	26,97 (1.062)	23,62 (.930)	46,05 (1.813)	51 (2.00)	1092 (43)
HS NF 771-16	1 - 5/16 - 12	7,15 (1.108)	30,18 (1.188)	25,91 (1.020)	50,80 (2.000)	57 (2.25)	1092 (43)
HS NF 771-20	1 - 5/8 - 12	11,40 (1.767)	38,10 (1.500)	31,75 (1.250)	60,33 (2.375)	67 (2.62)	1143 (45)
HS NF 771-24	1 - 7/8 - 12	15,52 (2.405)	44,45 (1.750)	36,32 (1.430)	69,85 (2.750)	76 (3.00)	1194 (47)
HS NF 771-M47	M47 x 2	15,52 (2.405)	44,45 (1.750)	36,32 (1.430)	69,85 (2.750)	76 (3.00)	1194 (47)
HS NF 771-M63	M63 x 2	27,75 (4.301)	59,44 (2.340)	48,01 (1.890)	88,90 (3.500)	95 (3.75)	1829 (72)
HS NF 771-32	2 - 1/2 - 12	28,58 (4.430)	60,33 (2.375)	61,98 (2.440)	114,30 (4.500)	95 (3.75)	1829 (72)
HS NF 771-82	M82 x 2	48,51 (7.518)	78,59 (3.094)	76,20 (3.000)	114,30 (4.500)	124 (4.88)	1524 (60)
HS NF 771-100	M100 x 2	71,26 (11.045)	95,25 (3.750)	76,20 (3.000)	136,53 (5.375)	152 (6.00)	1829 (72)

Informationen

Außerdem bei der Konstruktion zu beachten:

1. Keine Vorspannung

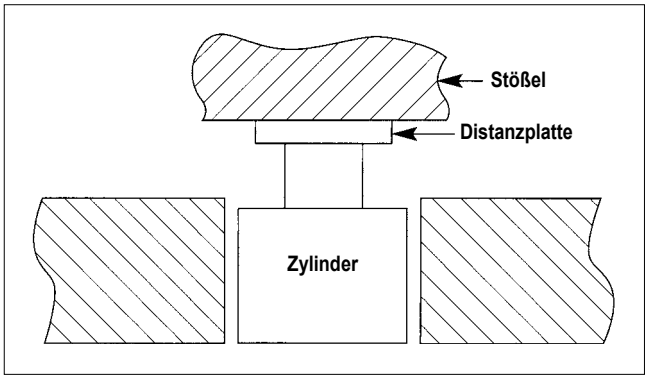


Achtung: Das Gewicht des Niederhalters darf nicht höher sein als der Gegendruck der Stickstoff-Zylinder.

Um die Kolbenstange der Stickstoff-Zylinder ganz ausfahren zu können, sollte zwischen der zu betätigenden Platte (Abstreifer, Niederhalter) und der Kolbenstangen ein Spalt von 0,2 bis 0,3 mm vorgesehen werden.

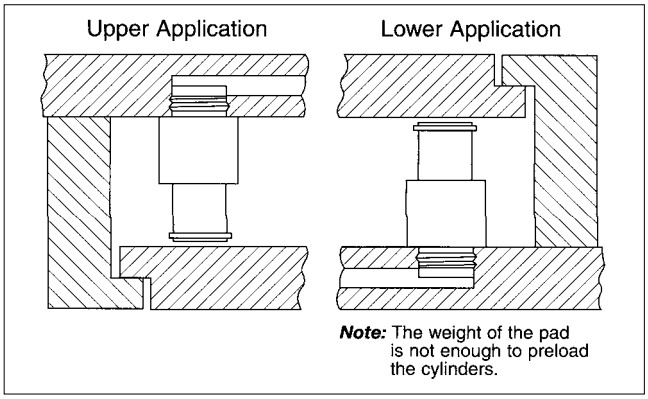
2. Vermeiden Sie Kolbenstangen mit Sonderlängen

Sollten die verfügbaren Zylinderlängen nicht exakt mit dem gewünschten Hub übereinstimmen, empfehlen wir den Einsatz von gehärteten Distanzplatten zum Ausgleich der Längendifferenz.
Bei Bedarf können die Zylinder bei Überlänge auch etwas in der Aufnahmeplatte versenkt werden.
Sonderzylinder sind in der Regel teurer und haben längere Lieferzeit.



Additional Design Considerations:

1. Design with Die Open Clearance

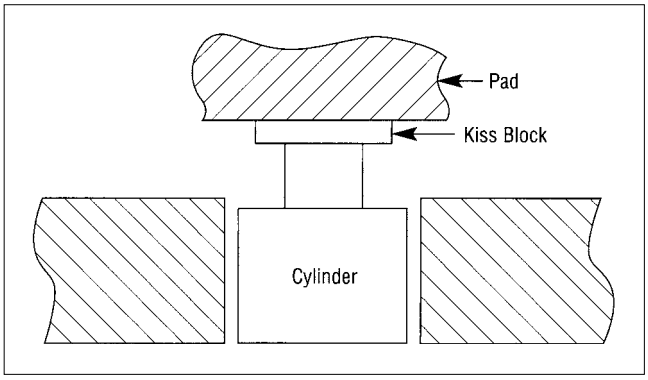


Note: The weight of the pad is not enough to preload the cylinders.

Manifolds require a minimum clearance of .010 inch (.254 mm) in the die to allow the nitrogen cylinders to come to a full, open position. In an upper application, the clearance occurs between the end of the cylinder rod and the pad. In a lower application, the clearance is between the pad and its retainer system.

2. Avoid Special Length Piston Rods

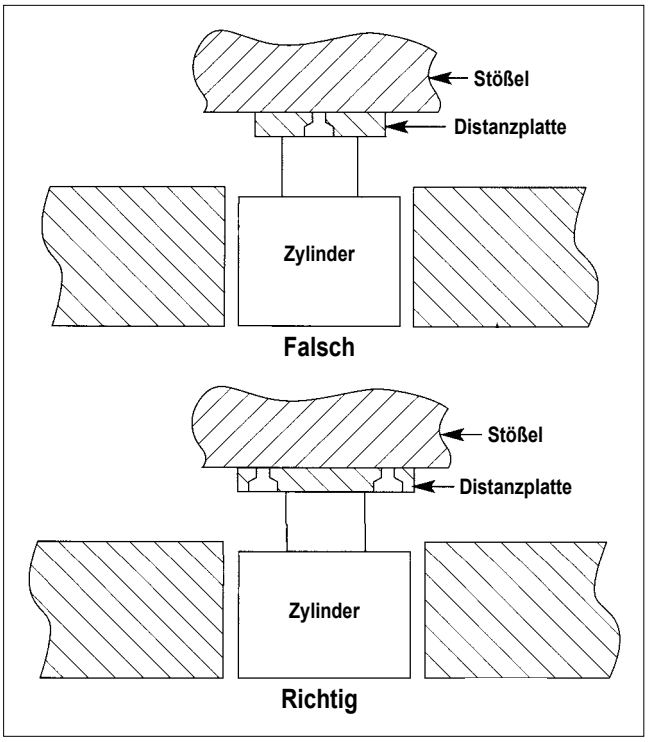
If the height of a standard nitrogen cylinder does not match the distance to the back of the pad, we recommend using kiss blocks to make up the height difference. Another alternative is to counterbore the cylinders into the manifold.
Cylinders with special length piston rods are custom orders and require longer delivery times.



Informationen

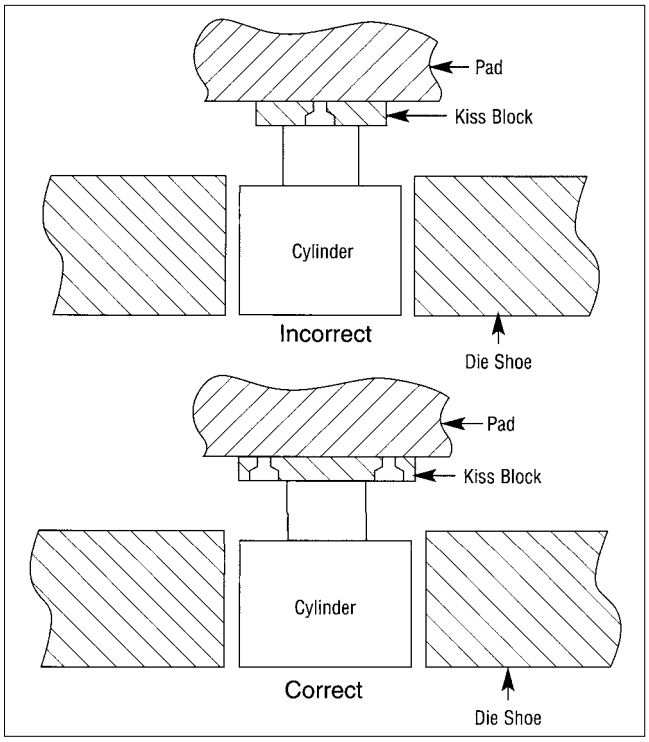
3. Kolbenstangen-Kontaktfläche

Es ist wichtig, dass die Flächen, gegen die die Kolbenstangen arbeiten, eben sind. Arbeiten Sie nie gegen Senkungen, Gussoberflächen oder Bolzen.

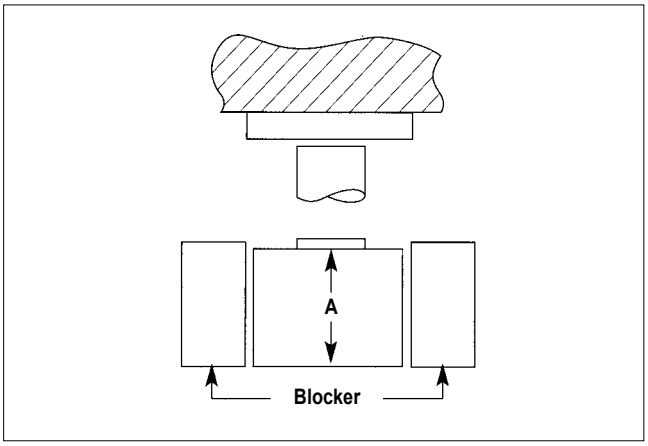


3. Piston Rod Contact Surfaces

It is essential that the nitrogen cylinder's piston rod make contact with a flat surface. Never put the piston rod against a counterbored hole, rough casting or bolt.

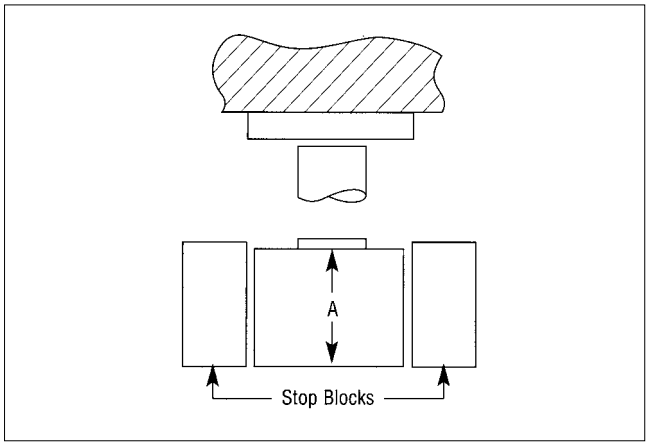


4. Blocker



Arbeiten Sie mit Blockern um die Zylinder für den Fall zu schützen, dass der Niederhalter über den eigentlichen Hub hinausfährt.
Der Blocker sollte gleich groß oder größer als die Körperlänge (A) des Zylinders sein.

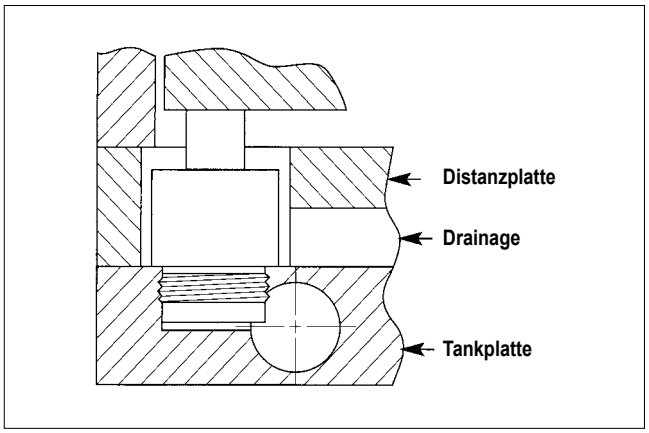
4. Stop Blocks



Use stop blocks to prevent cylinder damage in the event that the pad is overstroked.
The stop block should be equal to or greater than the "A" dimension on the cylinder.

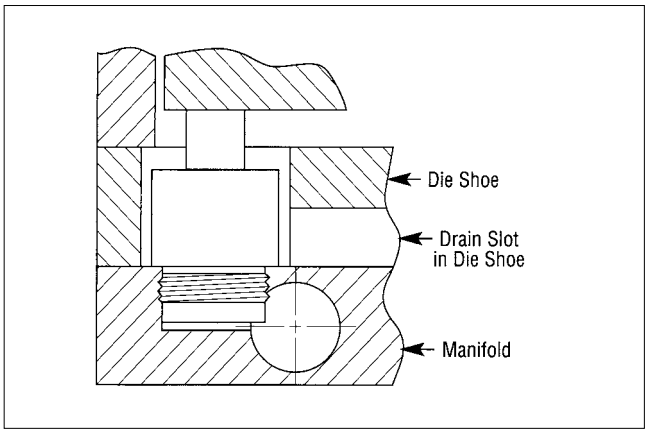
Informationen

5. Drainagebohrungen



In den meisten Anwendungen werden die Zylinder in gesenkten Bohrungen untergebracht. Diese können sich mit Ziehölen, Spänen oder auch Reinigungsmitteln füllen und die Standzeit des Systems reduzieren.
Um das zu vermeiden, berücksichtigen Sie Drainagebohrungen in jeder Zylinderaufnahme. Sie sollten groß genug sein, um Verstopfungen auszuschließen.
Sollten Sie sich bezüglich der Größe dieser Bohrungen unter Berücksichtigung der angeschlossenen Zylinder nicht sicher sein, helfen wir Ihnen gerne weiter.

5. Drain Slots



In most die designs, cylinders are placed through a pocket in the die shoe or subplate in the die. This pocket can fill with draw lubricants, metal chips and/or cleaning solvents that submerge the cylinder and shorten the life of the system.
To prevent this, install drainage slots in each cylinder pocket. They should be of sufficient size to prevent blockage, and because the size of the drain slots or drain holes depend on the number of cylinders connected by one slot/hole, please contact Hyson Products for assistance.

6. Zugang / Wartung / Service

Stellen Sie schon bei der Konstruktion sicher, dass das Stickstoff-System gut transportiert, installiert, gewendet und gewartet werden kann, ohne Bauteile zu beschädigen.

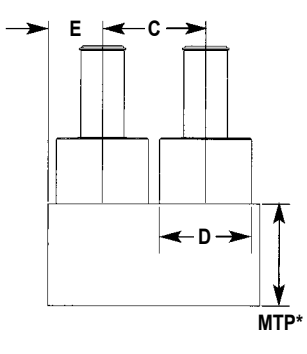
6. Handling Holes

Every manifold should have handling holes so the system can be installed, turned and serviced without damaging the nitrogen cylinders.

Informationen

7. Zylinder-Platzierung

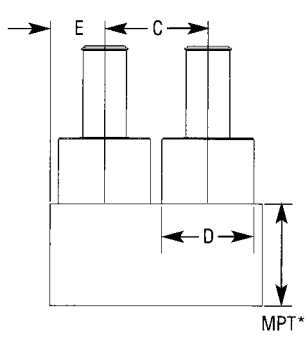
Die Mindestabstände zwischen Zylindern, wie auch zu den Plattenaußenkanten, entnehmen Sie bitte den folgenden Tabellen.



* = Minimum Plattenstärke

7. Cylinder Location

Using the charts that follow, locate cylinders for the standard 1500 psi manifold or the high pressure 2000 psi manifold with a minimum distance between the cylinders and plate edge.



* = Minimum Plate Thickness

Standard-System 103 bar

Kraft [t]	D [mm]	min. C [mm]	min. E [mm]
0,5	41	51	24
1,0	54	60	32
2,5	70	76	40
4,0	90	95	54
6,0	109	114	64

Standard 1500 psi System

Force [t]	D [in.]	min. C [in.]	min. E [in.]
0,5	1.60	2.00	.94
1,0	2.12	2.38	1.25
2,5	2.75	3.00	1.56
4,0	3.56	3.75	2.13
6,0	4.31	4.45	2.50

Hochdruck-System 138 bar

Kraft [t]	D [mm]	min. C [mm]	min. E [mm]
0,75	41	51	26
1,5	54	70	37
3,0	70	89	48
5,0	90	115	62
8,0	109	137	77

High Pressure 2000 psi System

Force [t]	D [in.]	min. C [in.]	min. E [in.]
0,75	1.60	2.00	1.02
1,5	2.12	2.75	1.43
3,0	2.75	3.50	1.89
5,0	3.56	4.50	2.44
8,0	4.31	5.38	3.00

Informationen

Auswahl der richtigen Tankplatten-Zylinder

Unsere Hyson Tankplatten-Zylinder werden in den unterschiedlichsten Ausführungen bezüglich Durchmesser, Kräften, Hüben und Höhen und mit den unterschiedlichsten Eigenschaften abgeboten.

Choosing a Manifold Cylinder

Hyson Products nitrogen manifold cylinders are available in a wide variety of diameters, tonnages, profiles, strokes and heights to meet your stamping requirements.

HS SB 2,5-1,0 **HS MOR 2,5-1,0** **HS MOR 400-1,0** **HS TSB 2,5-1,0** **HS MOR-D 2,5-1,0**

SB

Der Hyson Kurzhub-Zylinder wurde für Ziehkissen oder für Gegenhaltearbeiten konstruiert.

SB

A short height cylinder for short stroke applications. Designed originally for stripper pad operations, the cylinder profile allows for minimal clearance and weight when manifolds are mounted in upper stripping dies.

MOR

Dieser Zylindertyp wird nicht in die Tankplatte eingesenkt, sondern wird eingesetzt, wenn genügend Einbauhöhe zur Verfügung steht.

MOR

The cylinder used most often in basic nitrogen systems. This taller cylinder extends beyond the surface of the manifold plate for applications where shut height is not an issue.

MOR 400

Unser kompaktester Tankplatten-Zylinder. Ideal dort einzusetzen, wo niedrigere Kräfte gewünscht sind.

MOR 400

Our most compact manifold cylinder, ideal for low tonnage operations. Often used as a lifter or when higher speeds are required.

TSB

Ein Zylinder mit niedriger Körperhöhe für Anwendungen, bei denen die Einbauhöhe begrenzt ist und ein minimales Überstehen des Zylinders gewünscht wird.

TSB

A low body profile cylinder for applications where shut height is very limited. The TSB requires less die shoe machining for cylinder body clearance and shallower pockets if counterbored in the manifold.

MOR-D

Ein Zylinder mit niedrigem Körper für Anwendungen bei denen die Bauhöhe das wichtigste Kriterium ist. Eingebaut in eine dicke Tankplatte kann der Zylinder auch eingesenkt werden, wobei eine Pinolstange die Zylinderkolbenstange betätigt.

MOR-D

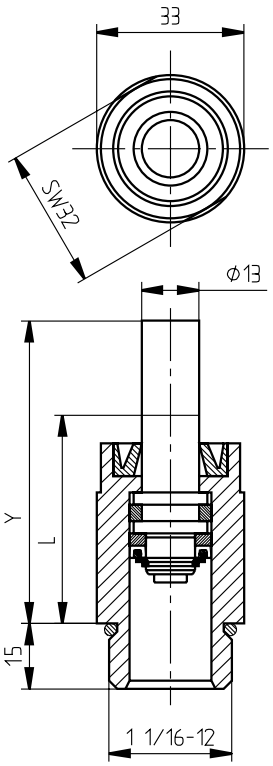
A shorter cylinder for applications where space is at a premium. Often vertical die height can be saved using a MOR-D profile cylinder. Installed in a thick manifold, the cylinder sleeve extends deep to allow the piston to stroke into the plate.

HS MOR 400 XP

Technische Daten:
Medium: N2
Max. Fülldruck: 110 bar
Min. Fülldruck: 20 bar

Specifications:
Medium: N2
Max. charging pressure: 110 bar
Min. charging pressure: 20 bar

HS MOR 400-1,50 XP



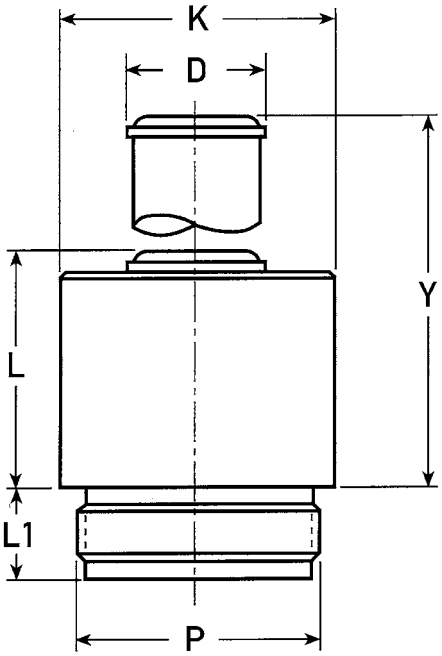
Zylindertyp / Model	Code	Hub / Stroke	Max. Kraft / Max. force kN (110 bar)	Kolbenfläche / Piston area cm²	Y	L	Plattenstärke / Plate thickness min.
HS MOR 400	**0,50**	12,7	4,06	2,62	42	30	25,4
HS MOR 400	**0,75**	19,1	4,06	2,62	55	36	25,4
HS MOR 400	**1,00**	25,4	4,06	2,62	68	42	25,4
HS MOR 400	**1,50**	38,1	4,06	2,62	93	55	25,4
HS MOR 400	**2,00**	50,8	4,06	2,62	118	68	25,4
HS MOR 400	**2,50**	63,5	4,06	2,62	144	80	25,4
HS MOR 400	**3,00**	76,2	4,06	2,62	169	93	25,4

HS MOR . . XP

Technische Daten:
Medium: N2
Max. Fülldruck Standard-System: 103 bar
Max. Fülldruck Hochdruck-System: 138 bar
Min. Fülldruck: 20 bar

Specifications:
Medium: N2
Max. charging pressure Standard system: 103 bar
Max. charging pressure High pressure system: 138 bar
Min. charging pressure: 20 bar

HS MOR 1,0-3,00 XP



Zylindertyp / Model (103 bar)	Zylindertyp / Model (138 bar)	Kolbenfläche / Piston area cm²	K	P	D	L1	Plattenstärke / Plate thickness min. (103 bar)	Plattenstärke / Plate thickness min. (138 bar)	max. Hub / max. stroke
HS MOR 0,5	**HS MOR 750**	5,07	41	1 5/16 - 12	22	22	44,5	47,8	101,6
HS MOR 1,0	**HS MOR 1500**	11,40	54	1 7/8 - 12	27	18	44,5	49,0	127,0
HS MOR 2,5	**HS MOR 3000**	22,26	70	2 1/2 - 12	35	25	50,8	55,4	152,0
HS MOR 4,0	**HS MOR 5000**	34,92	90	M82 x 2	47	32	50,8	57,0	178,0
HS MOR 6,0	**HS MOR 8000**	51,50	109	M100 x 2	64	32	63,5	73,0	203,0

HS MOR . . XP

HS MOR 1,0-3,00 XP

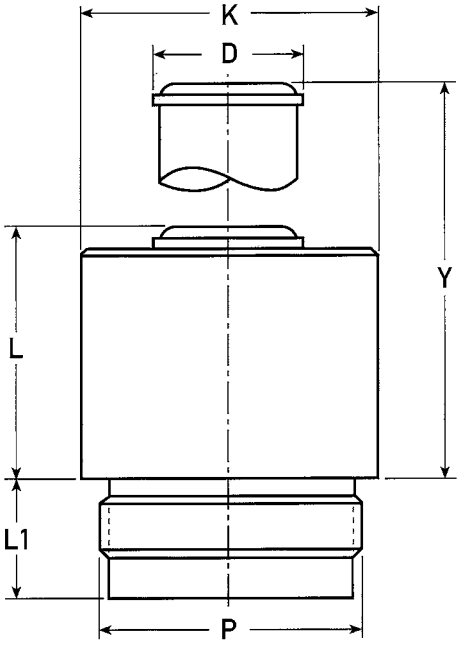
Code	Hub	HS MOR 0,5 / 750		HS MOR 1,0 / 1500		HS MOR 2,5 / 3000		HS MOR 4,0 / 5000		HS MOR 6,0 / 8000	
		Y	L	Y	L	Y	L	Y	L	Y	L
0,25	6,4	29,5	23,1	–	–	–	–	–	–	–	–
0,50	12,7	42,2	29,5	48,3	36,2	48,3	36,2	48,3	36,2	48,3	36,2
0,75	19,1	54,9	35,8	61,3	42,2	61,3	42,2	61,3	42,2	61,3	42,2
1,00	25,4	67,6	42,2	73,9	48,5	73,9	48,5	73,9	48,5	73,9	48,5
1,50	38,1	93,0	54,9	99,3	61,2	99,3	61,2	99,3	61,2	99,3	61,2
2,00	50,8	118,4	67,6	124,7	73,9	124,7	73,9	124,7	73,9	124,7	73,9
2,50	63,5	143,8	80,3	150,1	86,6	150,1	86,6	150,1	86,6	150,1	86,6
3,00	76,2	169,2	93,0	175,5	99,3	175,5	99,3	175,5	99,3	175,5	99,3
3,50	88,9	194,6	105,7	200,9	112,0	200,9	112,0	200,9	112,0	200,9	112,0
4,00	101,6	220,0	118,4	226,3	124,7	226,3	124,7	226,3	124,7	226,3	124,7
4,50	114,3	–	–	251,7	137,4	251,7	137,4	251,7	137,4	251,7	137,4
5,00	127,0	–	–	277,1	150,1	277,1	150,1	277,1	150,1	277,1	150,1
5,50	139,7	–	–	–	–	302,5	162,8	302,5	162,8	302,5	162,8
6,00	152,4	–	–	–	–	327,9	175,5	327,9	175,5	327,9	175,5
6,50	165,1	–	–	–	–	–	–	353,3	188,2	353,3	188,2
7,00	177,8	–	–	–	–	–	–	378,7	200,9	378,7	200,9
7,50	190,5	–	–	–	–	–	–	–	–	404,1	213,6
8,00	203,2	–	–	–	–	–	–	–	–	429,5	226,3

HS MOR-D . . XP

Technische Daten:
Medium: N2
Max. Fülldruck Standard-System: 103 bar
Max. Fülldruck Hochdruck-System: 138 bar
Min. Fülldruck: 20 bar

Specifications:
Medium: N2
Max. charging pressure Standard system: 103 bar
Max. charging pressure High pressure system: 138 bar
Min. charging pressure: 20 bar

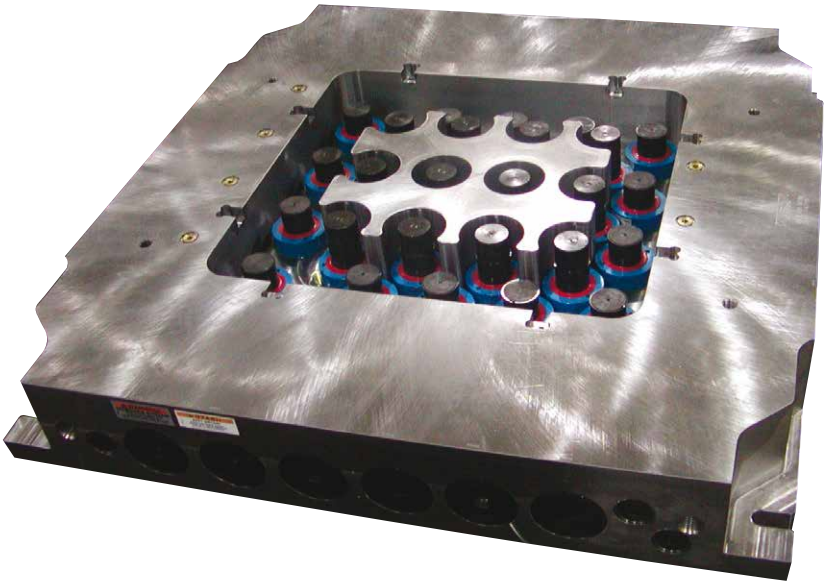
HS MOR-D 4,0-0,25 XP



Zylindertyp / Model (103 bar)	Zylindertyp / Model (138 bar)	Kolbenfläche / Piston area cm^2	K	P	D	L	max. Hub / max. stroke
HS MOR-D 0,5	**HS MOR-D 750**	5,07	41	1 5/16 - 12	22	42	101,6
HS MOR-D 1,0	**HS MOR-D 1500**	11,40	54	1 7/8 - 12	27	42	127,0
HS MOR-D 2,5	**HS MOR-D 3000**	22,26	70	2 1/2 - 12	35	42	152,0
HS MOR-D 4,0	**HS MOR-D 5000**	34,92	90	M82 x 2	47	42	178,0
HS MOR-D 6,0	**HS MOR-D 8000**	51,50	109	M100 x 2	64	42	203,0

HS MOR-D . . XP

HS MOR-D 4,0-0,25 XP



Code	Hub	HS MOR-D 0,5 / 750				HS MOR-D 1,0 / 1500				HS MOR-D 2,5 / 3000				HS MOR-D 4,0 / 5000				HS MOR-D 6,0 / 8000			
	Stroke	Y	L1	$S_{min.}$ 0,5	$S_{min.}$ 750	Y	L1	$S_{min.}$ 1,0	$S_{min.}$ 1500	Y	L1	$S_{min.}$ 2,5	$S_{min.}$ 3000	Y	L1	$S_{min.}$ 4,0	$S_{min.}$ 5000	Y	L1	$S_{min.}$ 6,0	$S_{min.}$ 8000
0,25	6,4	48,5	15,0	44,5	47,8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
0,50	12,7	54,9	15,0	44,5	47,8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
0,75	19,1	61,3	16,0	44,5	47,8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,00	25,4	67,6	22,4	44,5	47,8	67,6	24,6	44,5	49,0	67,6	31,8	50,8	55,4	67,6	38,1	63,5	69,9	67,6	38,1	63,5	73,0
1,50	38,1	80,3	35,1	46,0	49,0	80,3	37,3	47,8	52,6	80,3	44,5	57,0	61,7	80,3	50,8	69,9	76,0	80,3	50,8	69,9	79,5
2,00	50,8	93,0	47,8	58,7	62,0	93,0	50,0	60,5	65,0	93,0	57,2	69,9	74,4	93,0	63,5	82,6	88,9	93,0	63,5	82,6	92,0
2,50	63,5	105,7	60,5	71,4	74,7	105,7	62,7	73,0	78,0	105,7	69,9	82,6	87,0	105,7	76,2	95,0	101,6	105,7	76,2	95,0	104,9
3,00	76,2	118,4	73,2	84,0	87,4	118,4	75,4	85,9	90,7	118,4	82,6	95,0	99,8	118,4	88,9	108,0	114,0	118,4	88,9	108,0	117,6
3,50	88,9	131,1	85,9	96,8	100,0	131,1	88,2	98,6	103,4	131,1	95,3	108,0	112,5	131,1	101,6	120,7	127,0	131,1	101,6	120,7	130,0
4,00	101,6	143,8	88,6	109,5	112,8	143,8	100,8	111,0	116,0	143,8	108,0	120,7	125,0	143,8	114,3	133,4	139,7	143,8	114,3	133,4	143,0
4,50	114,3	–	–	–	–	156,5	112,8	124,0	128,8	156,5	120,7	133,4	137,9	156,5	127,0	146,0	152,4	156,5	127,0	146,0	155,7
5,00	127,0	–	–	–	–	169,2	126,4	133,7	141,5	169,2	133,4	146,0	150,6	169,2	139,7	158,8	165,0	169,2	139,7	158,8	168,4
5,50	139,7	–	–	–	–	–	–	–	–	181,9	146,1	158,8	163,0	181,9	152,4	171,5	177,8	181,9	152,4	171,5	181,0
6,00	152,4	–	–	–	–	–	–	–	–	194,6	158,8	171,5	176,0	194,6	165,1	184,0	190,5	194,6	165,1	184,0	193,8
6,50	165,1	–	–	–	–	–	–	–	–	–	–	–	–	207,3	177,8	196,9	203,0	207,3	177,8	196,9	206,5
7,00	177,8	–	–	–	–	–	–	–	–	–	–	–	–	220,0	190,5	209,6	215,9	220,0	190,5	209,6	219,0
7,50	190,5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	232,7	203,2	222,0	231,9
8,00	203,2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	244,7	215,9	235,0	244,6

HS TSB

Dieser Zylindertyp wird in sehr starken Tankplatten eingesetzt.

For usage in thick manifold plates.

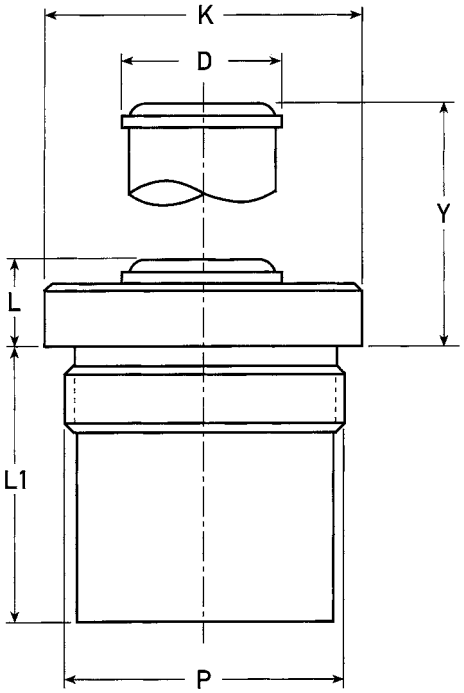
HS TSB 2,5-1,50

Technische Daten:

Medium:	N2
Max. Fülldruck Standard-System:	103 bar
Max. Fülldruck Hochdruck-System:	138 bar
Min. Fülldruck:	20 bar

Specifications:

Medium:	N2
Max. charging pressure Standard system:	103 bar
Max. charging pressure High pressure system:	138 bar
Min. charging pressure:	20 bar



Zylindertyp / Model (103 bar)	Zylindertyp / Model (138 bar)	Kolbenfläche / Piston area cm²	K	P	D	L	max. Hub / max. stroke
HS TSB 0,5	**HS TSB 750**	5,11	40,6	1 5/16 - 12	21,6	16,8	101,6
HS TSB 1,0	**HS TSB 1500**	11,42	53,8	1 7/8 - 12	27,4	16,8	127,0
HS TSB 2,5	**HS TSB 3000**	22,28	69,9	2 1/2 - 12	35,1	16,8	152,0
HS TSB 4,0	**HS TSB 5000**	35,05	90,4	M82 x 2	47,2	16,8	178,0

HS TSB

HS TSB 2,5-1,50

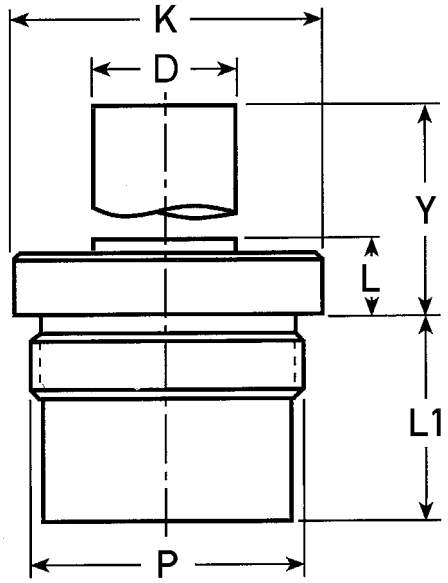
Code	Hub	HS TSB 0,5 / 750				HS TSB 1,0 / 1500				HS TSB 2,5 / 3000				HS TSB 4,0 / 5000			
	Stroke	Y	L1	$S_{min.}$ **0,5**	$S_{min.}$ **750**	Y	L1	$S_{min.}$ **1,0**	$S_{min.}$ **1500**	Y	L1	$S_{min.}$ **2,5**	$S_{min.}$ **3000**	Y	L1	$S_{min.}$ **4,0**	$S_{min.}$ **5000**
0,25	6,4	23,1	28,7	44,5	47,8	–	–	–	–	–	–	–	–	–	–	–	–
0,50	12,7	29,5	35,1	46,0	49,0	29,5	35,8	46,7	51,6	29,5	44,5	57,4	62,0	29,5	50,8	68,6	74,9
0,75	19,1	35,8	41,4	52,3	55,6	35,8	42,2	53,0	57,9	35,8	50,8	63,8	68,0	35,8	57,2	74,9	81,0
1,00	25,4	42,2	47,8	58,7	62,0	42,2	48,5	59,4	64,0	42,2	57,2	70,0	74,7	42,2	63,5	81,0	87,6
1,50	38,1	54,9	60,5	71,4	74,7	54,9	61,2	72,0	77,0	54,9	69,9	82,8	87,4	54,9	76,2	94,0	100,0
2,00	50,8	67,6	73,2	84,0	87,4	67,6	73,9	84,8	89,7	67,6	82,6	95,5	100,0	67,6	88,9	106,7	113,0
2,50	63,5	80,3	85,9	96,8	100,0	80,3	86,6	97,5	102,4	80,3	95,3	108,0	112,8	80,3	101,6	119,4	125,7
3,00	76,2	93,0	98,6	109,5	112,8	93,0	99,3	110,0	115,0	93,0	108,0	120,9	125,5	93,0	114,3	132,0	138,4
3,50	88,9	105,7	111,3	122,0	125,5	105,7	112,0	122,9	127,8	105,7	120,7	133,6	138,0	105,7	127,0	144,8	151,0
4,00	101,6	118,4	124,0	134,9	138,0	118,4	124,7	135,6	140,5	118,4	133,4	146,0	150,9	118,4	139,7	157,5	163,8
4,50	114,3	–	–	–	–	131,1	137,4	148,0	153,0	131,1	146,1	159,0	163,6	131,1	152,4	170,0	176,5
5,00	127,0	–	–	–	–	143,8	150,1	161,0	165,9	143,8	158,8	171,7	176,0	143,8	165,1	182,9	189,0
5,50	139,7	–	–	–	–	–	–	–	–	156,5	171,5	184,4	189,0	156,5	177,8	195,6	201,9
6,00	152,4	–	–	–	–	–	–	–	–	169,2	184,2	197,0	201,7	169,2	190,5	208,0	214,6
6,50	165,1	–	–	–	–	–	–	–	–	–	–	–	–	181,9	203,2	221,0	227,0
7,00	177,8	–	–	–	–	–	–	–	–	–	–	–	–	194,6	215,9	233,7	240,0

HS SB

Technische Daten:
Medium: N2
Max. Fülldruck Standard-System: 103 bar
Max. Fülldruck Hochdruck-System: 138 bar
Min. Fülldruck: 20 bar

Specifications:
Medium: N2
Max. charging pressure Standard system: 103 bar
Max. charging pressure High pressure system: 138 bar
Min. charging pressure: 20 bar

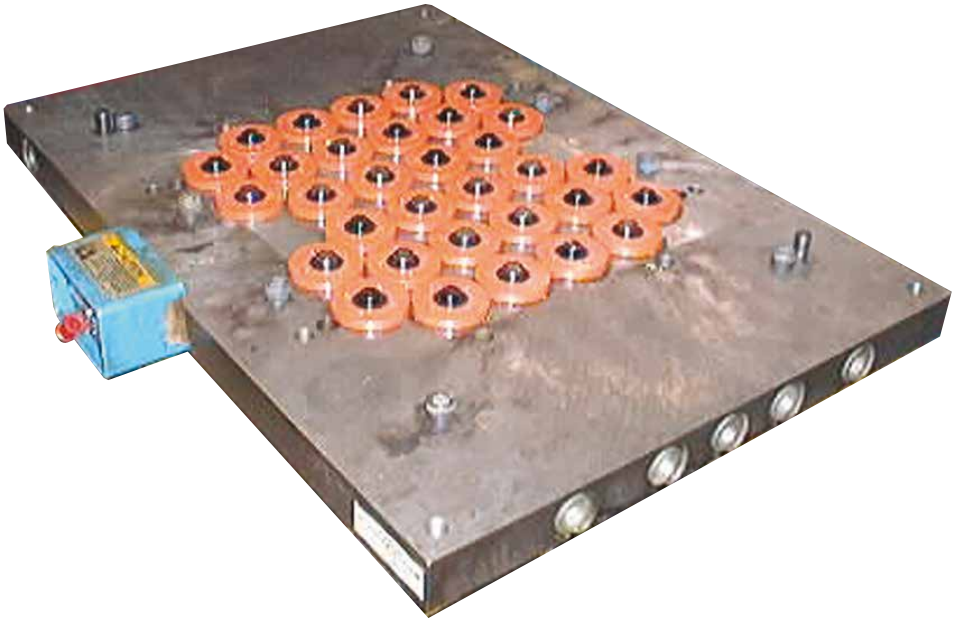
HS SB 4,0-0,38



Zylindertyp / Model (103 bar)	Zylindertyp / Model (138 bar)	Kolbenfläche / Piston area cm^2	K	P	D	L	max. Hub / max. stroke
HS SB 1,0	**HS SB 1500**	11,42	53,8	1 - 7/8 - 12	19,1	11,2	25,4
HS SB 2,5	**HS SB 3000**	22,28	69,9	2 - 1/2 - 12	19,1	11,2	25,4
HS SB 4,0	**HS SB 5000**	35,02	90,4	M82 x 2	38,1	16,0	25,4
HS SB 6,0	**HS SB 8000**	51,70	109,5	M100 x 2	47,5	16,0	25,4

HS SB

HS SB 4,0-0,38



Code	Hub Stroke	HS SB 1,0 / 1500				HS SB 2,5 / 3000				HS SB 4,0 / 5000				HS SB 6,0 / 8000			
		Y	L1	$S_{min.}$ **1,0**	$S_{min.}$ **1500**	Y	L1	$S_{min.}$ **2,5**	$S_{min.}$ **3000**	Y	L1	$S_{min.}$ **4,0**	$S_{min.}$ **5000**	Y	L1	$S_{min.}$ **6,0**	$S_{min.}$ **8000**
0,25	6,4	17,5	30,2	42,9	47,8	17,5	30,2	42,9	47,8	22,1	37,3	54,9	61,0	22,1	37,3	54,9	64,5
0,38	9,7	20,6	33,5	46,0	51,0	20,6	33,5	46,0	51,0	25,4	40,4	57,9	64,0	25,4	40,4	57,9	67,6
0,50	12,7	23,9	36,6	48,0	54,0	23,9	36,6	48,0	54,0	28,4	43,7	61,0	67,6	28,4	43,7	61,0	70,9
0,62	15,7	26,9	39,6	52,6	57,4	26,9	39,6	52,6	57,4	31,8	46,7	64,0	70,6	31,8	46,7	64,0	73,9
0,75	19,1	30,2	42,9	55,6	60,5	30,2	42,9	55,6	60,5	34,8	50,0	67,6	73,9	34,8	50,0	67,6	77,0
1,00	25,4	36,6	49,3	62,0	66,8	36,6	49,3	62,0	66,8	41,1	56,4	73,9	80,0	41,1	56,4	73,9	83,6

HS NF 771

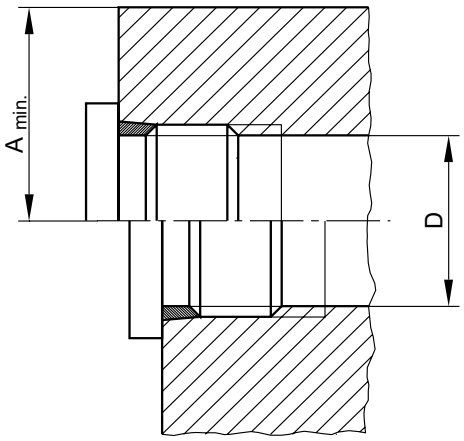
Sollen Stickstoff-Volumenbohrungen direkt in die Tank- oder Werkzeugplatte eingebracht werden, müssen diese mit Verschlussstopfen verschlossen werden. Die Speicher oder Versorgungsbohrungen sollten so konzipiert werden, dass keine Sacklochbohrungen entstehen. Zylinder-aufnahme und Tankplatten aus Stahl oder Alu müssen einer Ultraschallprüfung unter-zogen werden (keine Wärmebehandlung). Die Berechnung des Gesamt-Volumens ist auf Seite HS.41 dargestellt

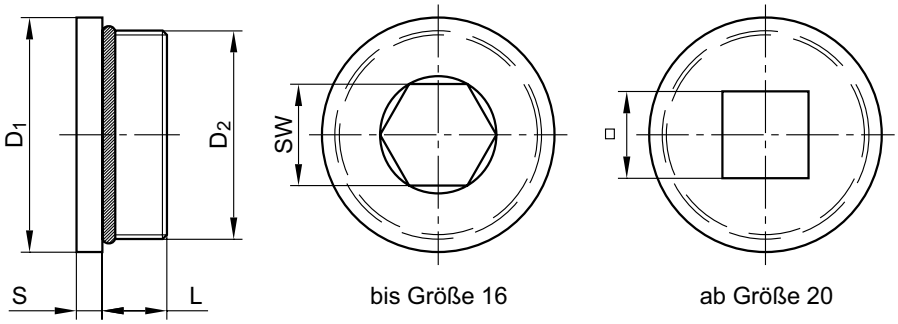
In der nachfolgenden Tabelle können Sie in Abhängigkeit vom Bohrungs-ø D das Volumen in cm³/lfd. 10 mm Bohrung entnehmen

In case nitrogene volume-holes need to be drilled into the manifold-plate, blind holes should be avoided and all these holes must be shut with sealing plugs.
All (manifold-) plates with connection- and/ or volume-holes, no matter if made out of steel or aluminum, must be ultra-sonic checked.
In order to calculate the total volume needed, please refer to our corresponding literature page HS.41.

HS NF 771 - 4

The table below shows - depending on the hole-diameter - the volume in cm³ per 10 mm hole-length.





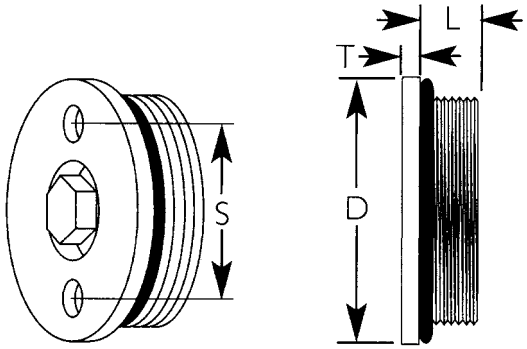
Type	Gewinde / Thread D2	D1	S	L	A	D min.	V cm³/10 mm	SW	□
HS NF 771-4	7/16 - 20	14,3	2,8	9,1	10	9	0,64	4,8	–
HS NF 771-5	1/2 - 20	16,0	2,8	9,1	11	10	0,79	4,8	–
HS NF 771-8	3/4 - 16	22,4	4,1	11,2	15	16	2,01	7,9	–
HS NF 771-10	7/8 - 14	25,4	4,1	12,7	16	20	3,14	9,7	–
HS NF 771-12	1 1/16 - 12	31,8	4,6	15,0	20	24	4,91	14,3	–
HS NF 771-14	1 3/16 - 12	35,1	4,6	15,0	22	28	6,15	14,3	–
HS NF 771-16	1 5/16 - 12	38,1	4,6	15,0	24	30	7,07	16,0	–
HS NF 771-20	1 5/8 - 12	47,8	4,1	15,0	27	38	11,33	–	1/2"
HS NF 771-24	1 7/8 - 12	53,8	4,1	15,0	32	45	15,90	–	1/2"
HS NF 771-M47	M47 x 2	53,8	4,1	15,0	32	45	15,90	–	1/2"
HS NF 771-32	2 1/2 - 12	69,9	4,1	15,0	40	60	28,26	–	1/2"
HS NF 771-M63	M63 x 2	39,9	4,1	15,0	40	60	28,26	–	1/2"
HS NF 771-82	M82 x 2	88,9	6,4	19,1	54	76	45,34	–	3/4"
HS NF 771-100	M100 x 2	108,0	6,4	19,1	64	95	70,85	–	3/4"

HS NF 771 . RD

mit Berstscheibe

with rupture disc

HS NF 771 - 20-RD



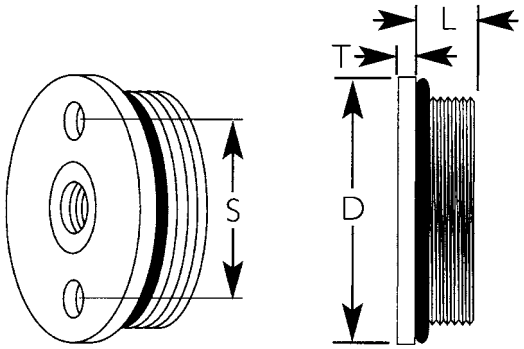
Type	D	T	L	S	Gewinde / Thread
HS NF 771-20-RD	47,8	4,1	15,0	25,4	1 5/8 - 12
HS NF 771-24-RD	53,8	4,1	15,0	31,8	1 7/8 - 12
HS NF 771-32-RD	69,9	4,1	15,0	44,5	2 1/2 - 12
HS NF 771-82-RD	88,9	6,4	19,1	57,2	M82 x 2
HS NF 771-100-RD	108,0	6,4	19,1	57,2	M100 x 2

HS NF 771

mit Anschlussgewinde

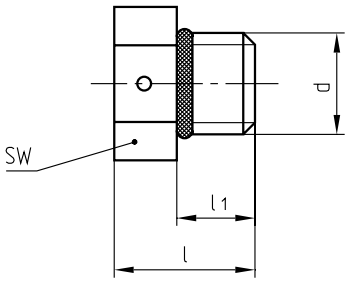
with internal ports

HS NF 771-20-5



Type	D	T	L	S	Gewinde / Thread
HS NF 771-20-5	47,8	4,1	15,0	25,4	1 5/8 - 12
HS NF 771-24-5	53,8	4,1	15,0	31,8	1 7/8 - 12
HS NF 771-32-5	69,9	4,1	15,0	44,5	2 1/2 - 12
HS NF 771-82-5	88,9	6,4	19,1	57,2	M82 x 2
HS NF 771-100-5	108,0	6,4	19,1	57,2	M100 x 2

HS RD 2150



Type	d	l	l1	SW
HS RD 2150	7/16 - 20	17,5	10,5	14,3
HS RD 2150/MZ*	7/16 - 20	17,5	10,5	14,3
HS RD 2150/US**	7/16 - 20	17,5	10,5	14,3
* mit TÜV-Zertifikat / with TUV-approval	** für Hochdruck-Systeme / for high pressure systems			

Die Kontrollarmaturen werden in jedem Stickstoffsystem benötigt. Das Manometer, Einlassventil und das Regelventil werden zum Ablesen, Füllen und Ablassen des Systemdrucks benötigt. Der Systemdruck sollte zwischen 20-110 bar liegen.

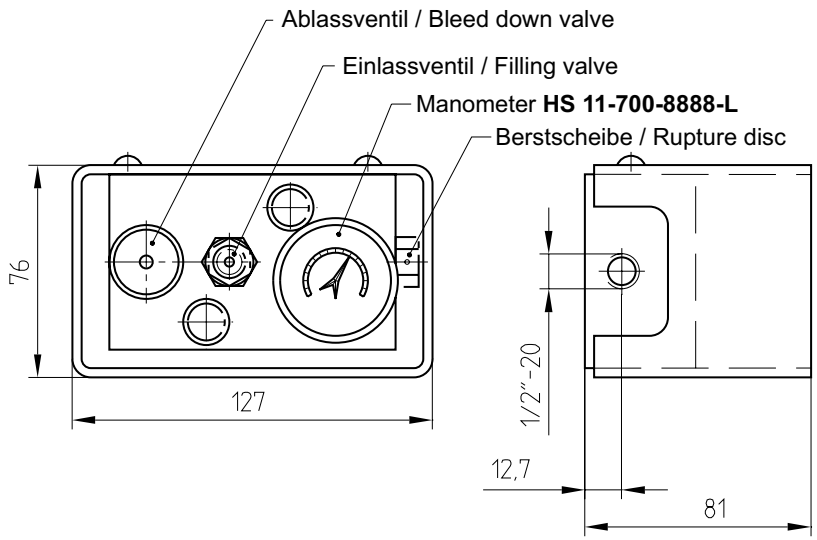
Standard control panels contain all the necessary controls for reading, charging and exhausting nitrogen pressure in a 1500 psi manifold system.
Control panels should be mounted in an accessible location where the pressure gauge can be read easily.

HS CP 1555

Kontrollarmatur Typ **HS CP 1555** wird eingesetzt für Schlauchverbindungen zwischen Speichertank / Platten

For remote connection to a manifold plate via an NH-250 hose.

HS CP 1555

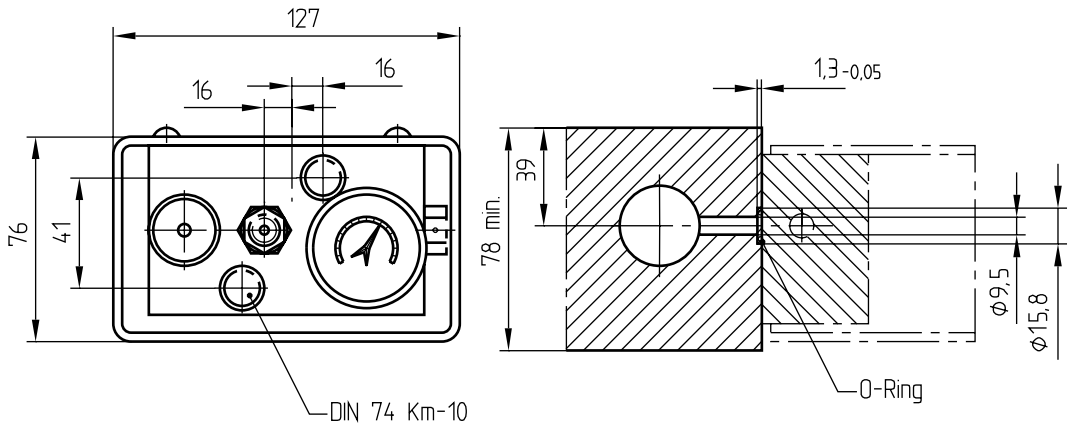


HS CPM 1555-M

Kontrollarmatur Typ **HS CP 1555-M** zum Verschrauben an Tankplatten mit einer Plattenstärke von min. 78 mm.

For direct mounting to a finished manifold plate by an O-ring seal. Minimum manifold thickness required is 3 inches.

HS CPM-1555-M



Die Kontrollarmaturen werden in jedem Stickstoffsystem benötigt. Das Manometer, Einlassventil und das Regelventil werden zum Ablesen, Füllen und Ablassen des Systemdrucks benötigt. Der Systemdruck sollte zwischen 20-110 bar liegen.

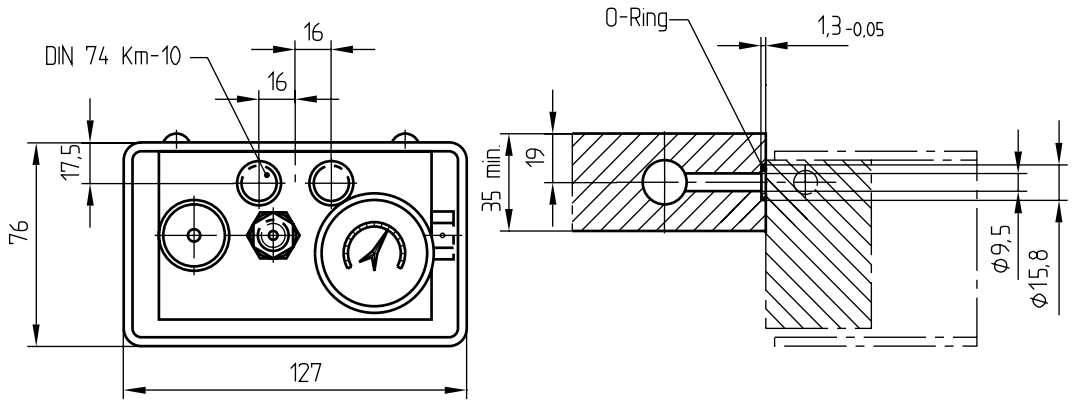
Standard control panels contain all the necessary controls for reading, charging and exhausting nitrogen pressure in a 1500 psi manifold system.
Control panels should be mounted in an accessible location where the pressure gauge can be read easily.

HS CPM 1555-E

Kontrollarmatur Typ **HS CPM 1555-E** kann an Tank- oder Versorgungsplatten ab 35 mm Plattenstärke verschraubt werden.

For direct mounting to a finished manifold plate by an O-ring seal. Maximum manifold thickness required is 3 inches.

HS CPM-1555-E



HS CP-N2

für Hochdruck.Systeme

Systemdruck von 20 - 138 bar

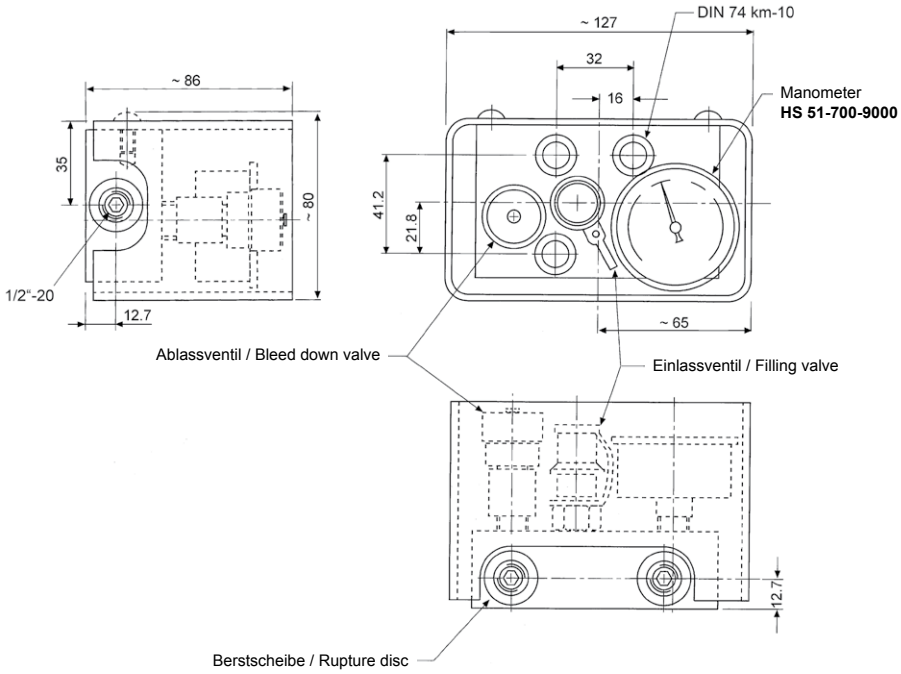
Die Kontrollarmatur Typ **HS CP-N2** wird für Schlauchverbindungen zwischen Speichertank und Tankplatten eingesetzt.

for high pressure systems

Nitrogen pressure up to 2000 psi

For remote connection to a manifold plate via an ORH hose.

HS CP-N2



HS CPM 2000-M

für Hochdruck.Systeme

Systemdruck von 20 - 138 bar

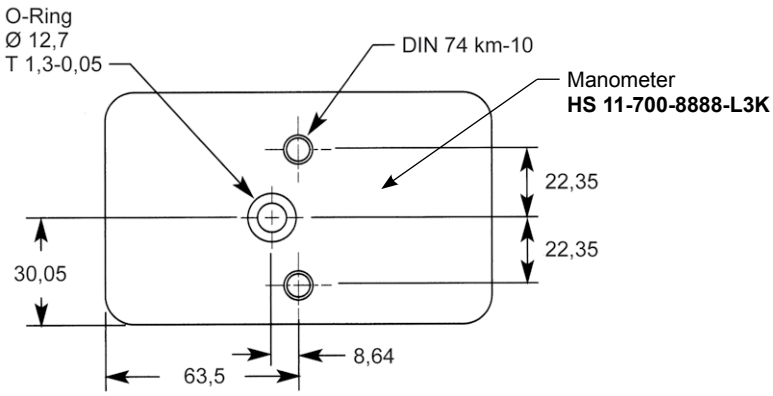
Kontrollarmatur Typ **HS CPM 2000-M** zum Verschrauben an Tankplatten mit einer Plattenstärke von min. 78 mm.

for high pressure systems

Nitrogen pressure up to 2000 psi

For direct mounting to a finished manifold plate by an O-ring seal. Minimum manifold thickness required is 3 inches.

HS CPM 2000-M



HS CPM 2000-E

für Hochdruck.Systeme

Systemdruck von 20 - 138 bar

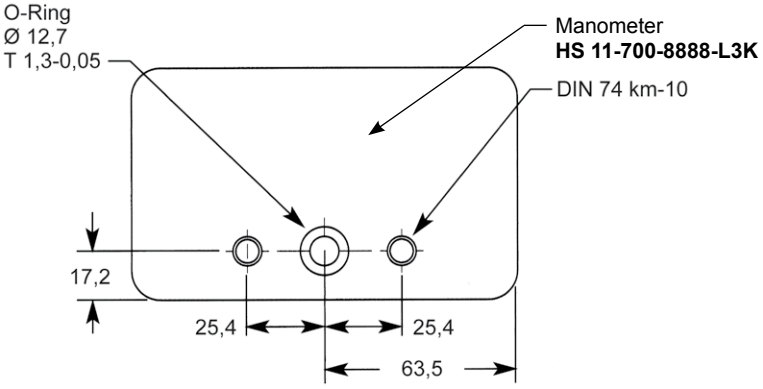
Kontrollarmatur Typ **HS CPM 2000-E** kann an Tank- oder Versorgungsplatten ab 35 mm Plattenstärke verschraubt werden.

for high pressure systems

Nitrogen pressure up to 2000 psi

For direct mounting to a finished manifold plate by an O-ring seal. Maximum manifold thickness required is 3 inches.

HS CPM 2000-E



HS SCT

HS SCT-Speichertanks werden in 4 Typen gefertigt, wobei das Maß zwischen den Flanschen vom benötigten Stickstoffvolumen abhängt.
Bei Auslieferung der Speichertanks sind die Anschlussbohrungen mit Verschlussstopfen verschlossen!

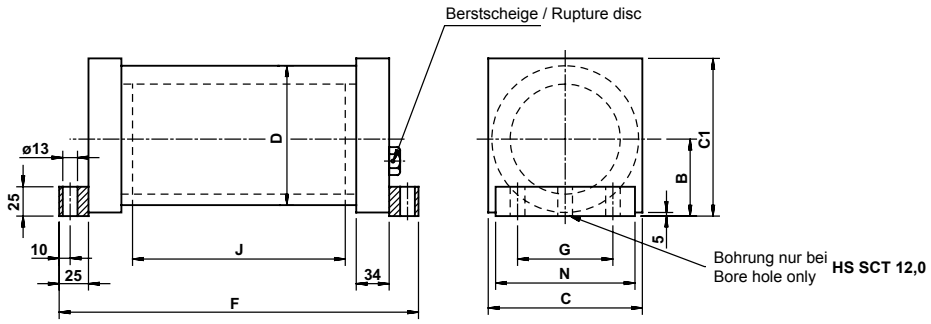
Stickstoff-Speichertanks unterliegen der TÜV-Prüfbestimmung und werden mit einem TÜV-Zertifikat und einer TÜV-Berstscheibe (fertig montiert) ausgeliefert.

Sondertanks - Mehrkammertanks - können auf Wunsch gefertigt werden. Wenn kein Einbauraum für lange oder größere Tanks besteht, können auch mehrere Tanks mit Schläuchen untereinander verbunden werden.

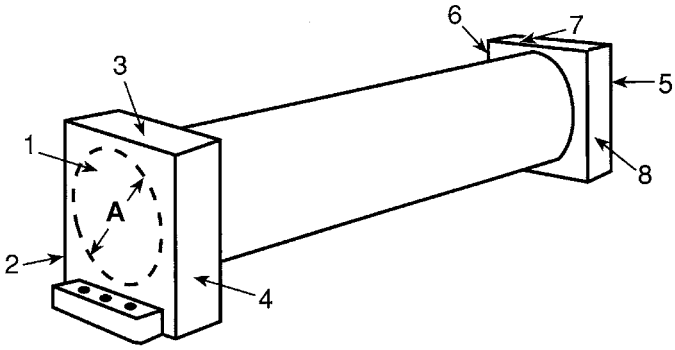
HS SCT compression tanks are offered in 4 different sizes, where the measurement J depends on the nitrogene volume required.
During shipping, the connection-threads are closed with screwd-in sealing-plugs.
These tanks are subject to TUV-approval-procedures. When ordered and shipped, they come with a TUV-certificate and a pre-mounted TUV-approved rupture-disc.

HS SCT 3,5

Special tank-sizes and multi-chamber tanks can be offered upon request.
For applications with limited space two ore more tanks can be hosed.



Tanktyp / Model	A cm²	B	C	C1	D	F	G	N	TÜV
HS SCT 3,5	57,5	62,5	115	120	102	150 + J	110	140	x
HS SCT 5,0	112,5	80,0	150	155	140	150 + J	110	140	x
HS SCT 8,0	296,0	117,5	225	230	220	150 + J	110	140	x
HS SCT 12,0	698,0	167,5	330	338	324	150 + J	200	250	x



Tanktyp / Model	Anschlussgewinde je Fläche / Internal ports per area					
	Flächen / Areas 1 und / and 5				Flächen / Areas 2, 3, 4, 6, 7, 8	
	1/2 - 20	3/4 - 16	7/16 - 20	7/8 - 14	1/2 - 20	3/4 - 16
HS SCT 3,5	2	1	1	–	2	–
HS SCT 5,0	2	2	1	–	2	–
HS SCT 8,0	1	2	1	1	–	2
HS SCT 12,0	–	2	1	1	–	2

Bestimmungen des erforderlichen Tankvolumens siehe Seite HS.41

Please refer to page HS.41 for information how to calculate the required tank-volume.

INFO HS.41

HS ST

HS ST-Speichertanks werden in 7 Größen gefertigt und haben an den Flächen Anschlussgewinde für Hochdruckschläuche sowie eine Berstscheibe **HS RD-2150/US**. Der Tank ist gefertigt für einen Systemdruck von 150 bar.

The ST Compression Tank acts as a reservoir for the “Swept Volume” of the nitrogen gas forced from the cylinders when they are stroked. This compact, modular tank is designed for pressure to 2175 psi/150 bar. It features multiple ports on each end for increased flexibility and a rupture disc plug for added safety.

HS ST-320-HP

Type	V [cm³]	L	Anschlüsse / Ports
HS ST-50-HP	817,4	244,1	6 x 3/4-16 1 x 7/16-20 1 x 7/16-14
HS ST-100-HP	1638,9	310,8	
HS ST-160-HP	2622,4	390,1	
HS ST-200-HP	3281,4	443,5	
HS ST-320-HP	5240,8	602,7	
HS ST-460-HP	7541,1	788,9	
HS ST-730-HP	11946,2	1149,4	

HS Z

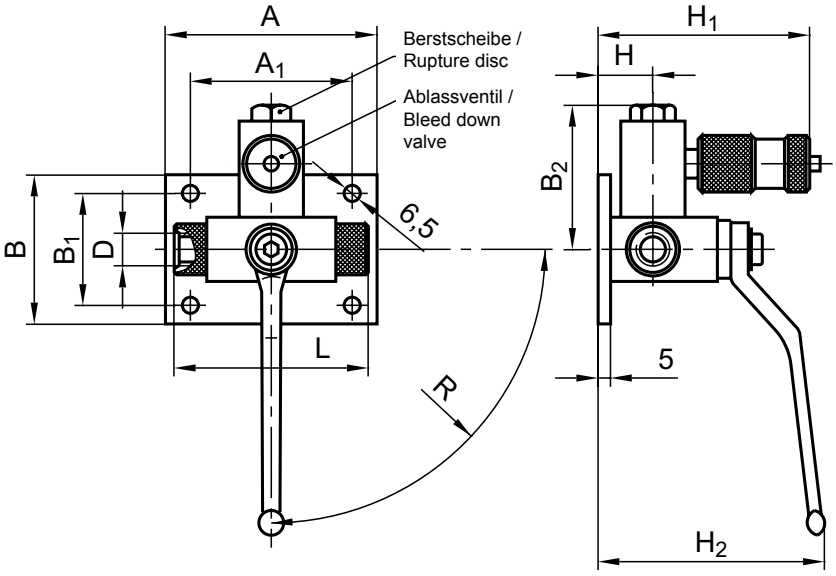
mit Ablassventil und Berstscheibe

Werden vorzugsweise zwischen Werkzeug oder Ziehkissen und Speichertank eingesetzt. Bei häufigem Werkzeugwechsel wird Stickstoff eingespart.

with bleeding valve and burst disk

May be placed between die or die cushion and storage tank, in order to save nitrogene in applications with frequent die-changes.

HS Z 13

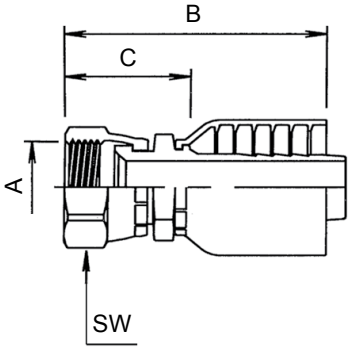


Type	D	L	A	A1	B	B1	B2	H	H1	H2	R
HS Z 13	3/4-16	78	85	65	60	45	58	22	85	91	110
HS Z 35	7/8-14	95	110	65	70	52	58	24	87	109	152

HS NHP

Pressarmaturen, gerade | **Crimping fittings, straight**

HS NHP 6

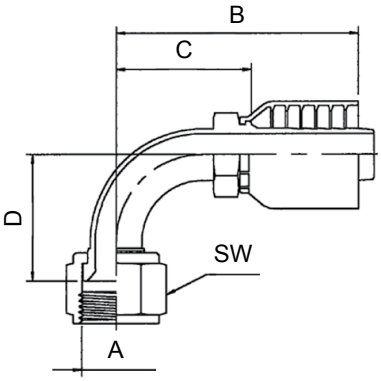


Type	A	B	C	SW	für Schlauch / for hose
HS NHP 6	1/2 - 20	65	33	17	HS NP 250
HS NHP 7	3/4 - 16	72	35	24	HS NP 375
HS NHP 8	7/8 - 14	82	41	27	HS NP 500

HS NHP

Pressarmaturen 90° | **Crimping fittings 90°**

HS NHP 7-90



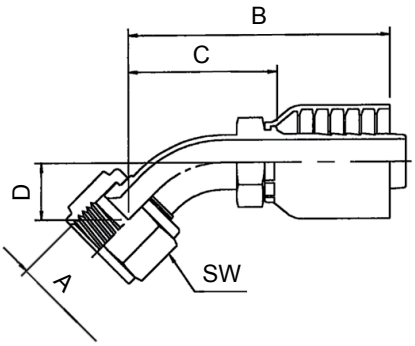
Type	A	B	C	D	SW	für Schlauch / for hose
HS NHP 6-90	1/2 - 20	64	32	25	17	HS NP 250
HS NHP 7-90	3/4 - 16	71	34	29	22	HS NP 375
HS NHP 8-90	7/8 - 14	77	36	32	27	HS NP 500

HS NHP

Pressarmaturen 45°

Crimping fittings 45°

HS NHP 6-45



Type	A	B	C	D	SW	für Schlauch / for hose
HS NHP 6-45	1/2 - 20	70	38	13	17	HS NP 250
HS NHP 7-45	3/4 - 16	78	42	15	22	HS NP 375
HS NHP 8-45	7/8 - 14	85	44	16	27	HS NP 500

HS NP

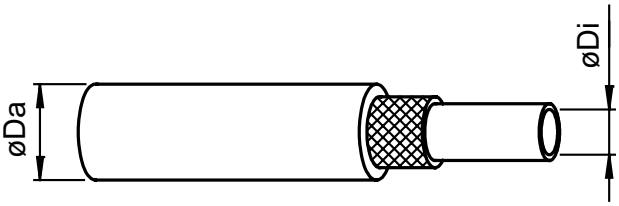
Hochdruckschläuche (Pressschläuche)

Länge nach Kundenwunsch [mm]

High pressure hoses, flexible

Length at customer request [mm]

HS NP 250 x 3000



Type	Da	Di	min. Biegeradius / min. bend radius [mm]
HS NP 250	12,7	6,3	51
HS NP 375	16,1	9,5	64
HS NP 500	20,4	12,7	102

HS Z 20

Information:
Wird der Druckwächter direkt in eine Kontrollarmatur eingeschraubt benötigten Sie den Adapter **NCQ.11**.

Druckwächter werden im Druckbereich von 40 - 240 bar zur Überwachung des Systemdrucks eingesetzt. Bei Druckabfall wird bei Elektroanschluss die Maschine gestoppt. Bei Stickstoffverlust kann auch über optische oder akustische Signale gewarnt werden.

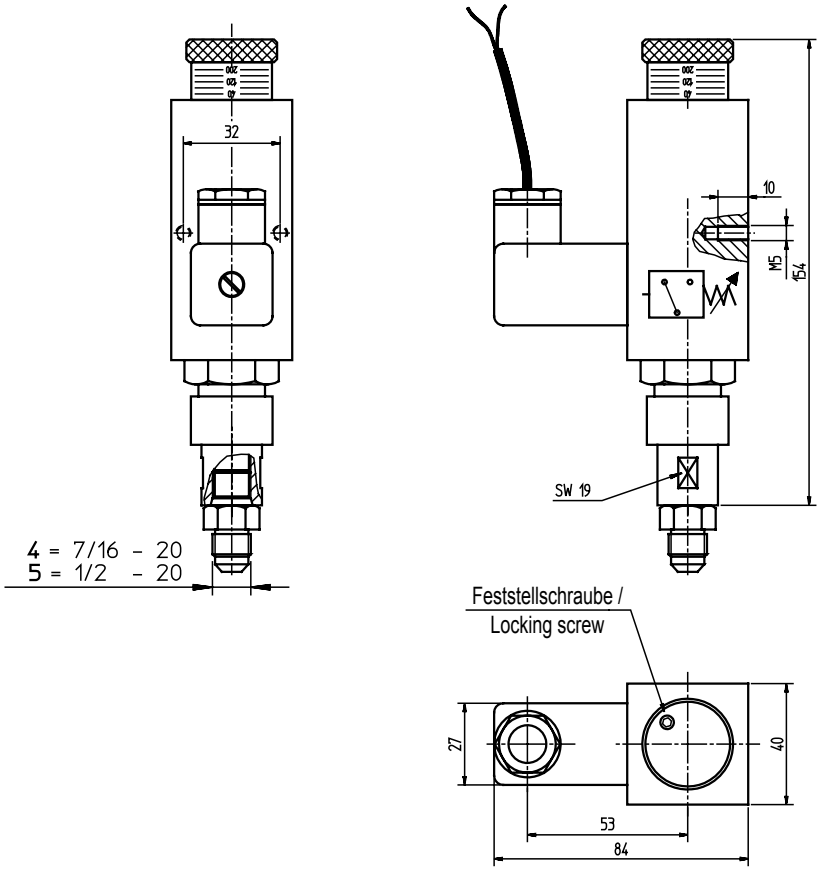
Bei der Bestellnummer ergänzen:
4 = Anschluss 7/16 - 20
5 = Anschluss 1/2 - 20

Information:
In case the pressure monitor is used in connection with a control panel, the Adapter **HS Z20-5-NCQ.11** is needed.

These units are being used to monitor the system-pressure (between 40 and 240 bars). In cases of a pressure decrease optical / accustical warnings can be initiated or the press can even be stopped.

HS Z 20 - 4

When ordering, please specify:
4 = Connection-thread 7/16 - 20
5 = Connection-thread 1/2 - 20

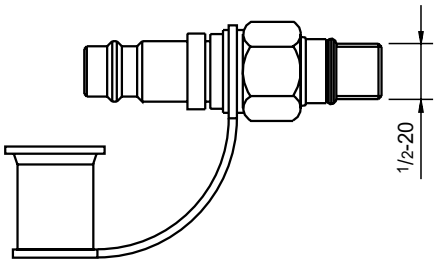


HS 11-700-8555

Stecknippel (HS NDZ-22)

Male quick release coupling (HS NDZ-22)

HS 11-700-8555

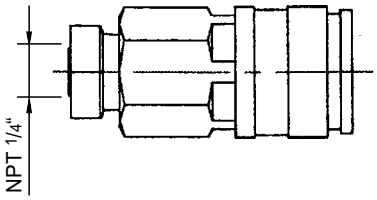


HS 11-770-2700

Steckkupplungen (HS NDZ-21A)

Female quick release coupling (HS NDZ-21A)

HS 11-770-2700



HS NCA 3000

Abfüllarmaturen

Charging assembly

HS NCA 3000

HS NCCS

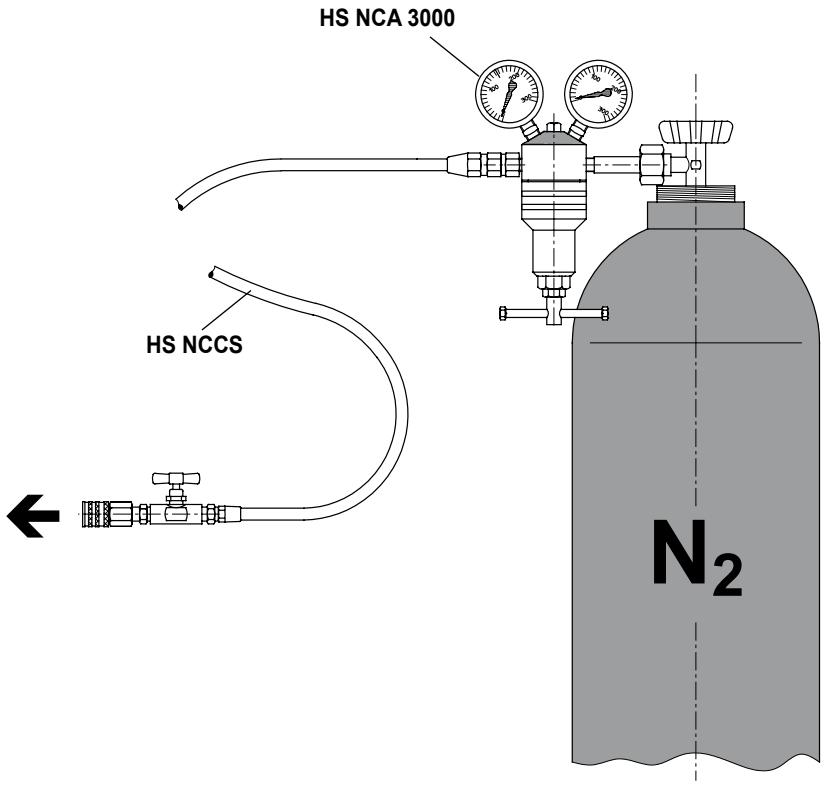
Ladeschläuche

Standardlänge: 3000 mm

Filling hose

Standard length: 3000 mm

HS NCCS



HS HG

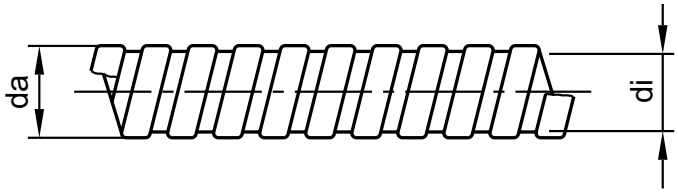
Schlauchschutzspiralen aus Metall

Länge nach Kundenwunsch [mm]

Hose guards

Length at customer request [mm]

HS HG 5 x 5000



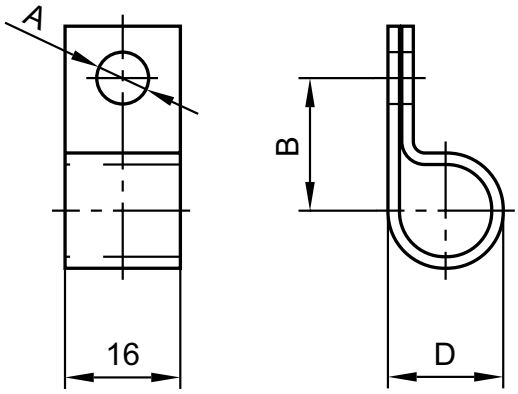
Type	Da	Di	für Schlauch / for hose
HS HG 5	17	14,5	HS NP 250
HS HG 8	21	19,1	HS NP 375
HS HG 10	26	22,2	HS NP 500

HS HC

Schlauchschelle aus Kunststoff

Hose clamps

HS HC 5

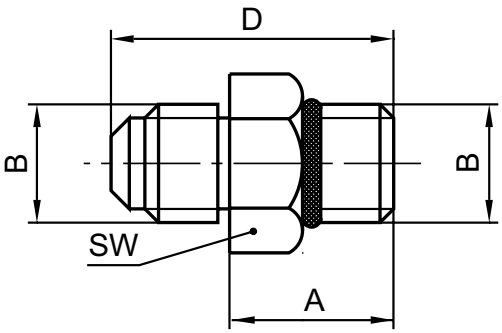


Type	A	B	D	für Schlauch / for hose
HS HC 5	5,1	12,7	12,7	HS NP 250
HS HC 8	5,1	15,7	15,7	HS NP 375
HS HC 10	5,1	20,6	20,6	HS NP 500

HS NF-1000

Anschlussstücke, gerade | **Straight fittings**

HS NF-1000-5

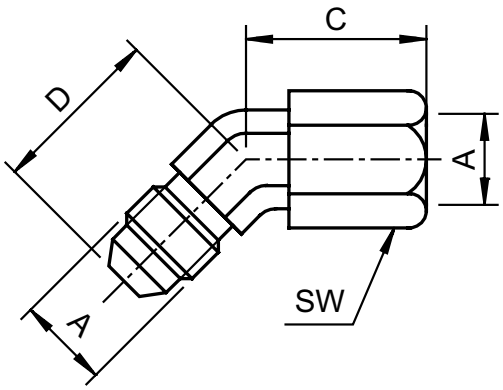


Type	B	A	D	SW	für Schlauch / for hose
HS NF-1000-5	1/2 - 20	22,1	31,2	15,9	HS NP 250
HS NF-1000-8	3/4 - 16	26,4	37,6	22,2	HS NP 375
HS NF-1000-10	7/8 - 14	30,5	43,2	25,4	HS NP 500

HS NF-4500

Winkelstücke 45° mit Überwurfmutter | **45° elbow swivel nuts**

HS NF-4500-5



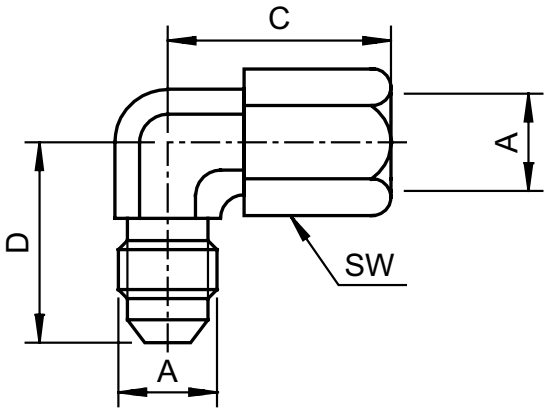
Type	A	C	D	SW	für Schlauch / for hose
HS NF-4500-5	1/2 - 20	19,6	24,4	15,9	HS NP 250
HS NF-4500-8	3/4 - 16	24,9	32,5	22,2	HS NP 375
HS NF-4500-10	7/8 - 14	28,3	36,6	25,4	HS NP 500

HS NF-2000

Winkelstücke 90° mit Überwurfmutter

90° elbow swivel nuts

HS NF-2000-5



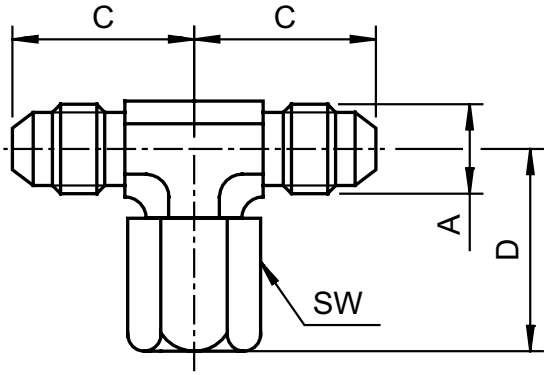
Type	A	C	D	SW	für Schlauch / for hose
HS NF-2000-5	1/2 - 20	24,1	26,9	15,9	HS NP 250
HS NF-2000-8	3/4 - 16	31,8	35,1	22,2	HS NP 375
HS NF-2000-10	7/8 - 14	36,8	41,1	25,4	HS NP 500

HS NF-3000

T-Stücke mit Überwurfmutter

Branch tee swivel nuts

HS NF-3000-5



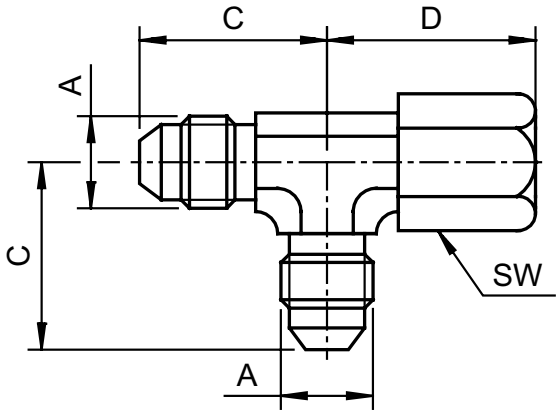
Type	A	C	D	SW	für Schlauch / for hose
HS NF-3000-5	1/2 - 20	24,1	26,9	15,9	HS NP 250
HS NF-3000-8	3/4 - 16	31,8	35,1	22,2	HS NP 375
HS NF-3000-10	7/8 - 14	36,8	41,1	25,4	HS NP 500

HS NF-3300

L-Stücke mit Überwurfmutter

Run tee swivel nuts

HS NF-3300-5



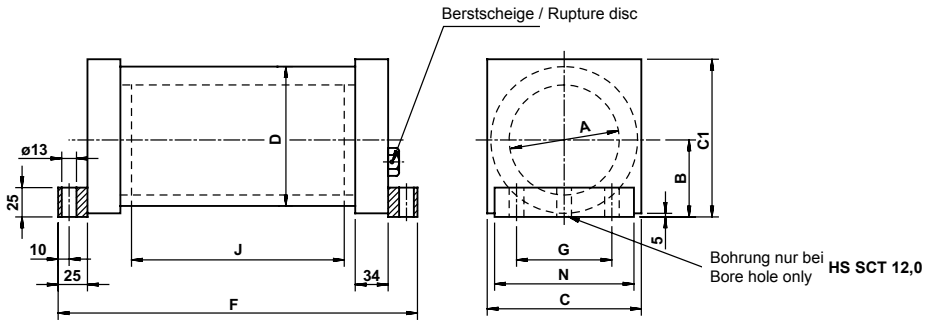
Type	A	C	D	SW	für Schlauch / for hose
HS NF-3300-5	1/2 - 20	24,1	26,9	15,9	HS NP 250
HS NF-3300-8	3/4 - 16	31,8	35,1	22,2	HS NP 375
HS NF-3300-10	7/8 - 14	36,8	41,1	25,4	HS NP 500

INFO

HS SCT

HS SCT-Speichertanks werden in 4 Typen gefertigt, wobei das Maß zwischen den Flanschen vom benötigten Stickstoffvolumen abhängt.

HS SCT compression tanks are offered in 4 different sizes, where the measurement J depends on the nitrogene volume required.



Tanktyp / Model	A [cm²]	B	C	C1	D	F	G	N	TÜV
HS SCT 3,5	57,5	62,5	115	120	102	150 + J	110	140	x
HS SCT 5,0	112,5	80,0	150	155	140	150 + J	110	140	x
HS SCT 8,0	296,0	117,5	225	230	220	150 + J	110	140	x
HS SCT 12,0	698,0	167,5	330	338	324	150 + J	200	250	x

Bestimmungen des erforderlichen Tankvolumens und der Länge J des Speichertanks:

Zylindergesamtvolumen = Kolbenfläche x Hub x Anzahl der Zylinder
Berücksichtigung des Druckanstiegs: 10%

Erforderliches Tankvolumen = Zylinder-Gesamtvolumen x $\frac{100}{10\%}$

Länge J des Speichertanks = $\frac{\text{Erforderliches Tankvolumen}}{\text{Kreisfläche A}}$

Berechnungsbeispiel:

5 Zylinder Typ HS-MOR 2,5 - 3,0 XP; Kolbenfläche: 22,2 cm²; Hub: 76 mm
Gesamtvolumen = 22,2 cm² x 7,6 cm x 5 = 844 cm³

Erforderliches Tankvolumen = 844 cm³ x $\frac{100}{10\%}$ = 8440 cm³

Länge J des Speichertanks Typ HS SCT-8 = $\frac{8440\ \text{cm}^3}{296\ \text{cm}^2}$ = 285 mm

Calculation of the required tank-volume and length J of the compression tank:

Total volume of cylinders = effective piston area of cylinder x stroke length x quantity of cylinders
Desired pressure rise: 10%

Tank-volume needed = Total cylinder volume x $\frac{100}{10\%}$

Length J of the compression tank = $\frac{\text{Tank-volume needed}}{\text{Area A}}$

Example:

5 cylinders type HS-MOR 2,5 - 3,0 XP; with effective piston area of 22,2 cm²; stroke length: 76 mm
Total volume of cylinders = 22,2 cm² x 7,6 cm x 5 = 844 cm³

Tank-volume needed = 844 cm³ x $\frac{100}{10\%}$ = 8440 cm³

Length J of the compression tank HS SCT-8 = $\frac{8440\ \text{cm}^3}{296\ \text{cm}^2}$ = 285 mm